Libraries, Information Literacy and Lifelong Learning

ILA

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Libraries, Information Literacy and Lifelong Learning



Chief Editor : Dr. (Mrs.) R. Chandra

Editors : Sh. Narendra Kumar Bar

Dr. M. Madhusudhan

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Sh. Dharm Veer Singh

INDIAN LIBRARY ASSOCIATION, DELHI

LIBRARIES, INFORMATION LITERACY AND LIFELONG LEARNING

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FOREWORD

Information Literacy and Lifelong Learning will give enormous strength to survive and progress in a global knowledge economy of change. Knowledge is information processed and organised taking from available sources. It is analysed and targeted to needs. The skills for doing this are what we call as Information Literacy. Information Literacy is a prerequisite to Lifelong Learning and is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to engage critically with content, and extend their investigation, become more self-directed and assume greater control over their own learning.

Information Literacy is recognised as important in private life and in the workplace. It is now considered necessary to educate students, to cope up with the changing information environment, and to provide professional development opportunities for those who must foster information competence.

In the information age, mastery of all types of electronic databases, indexes and networks is essential just to keep in touch with current technological developments and to be familiar with information retrieval systems which enable the new graduate to function both as a competent professional and as a member of the community. It is important, therefore, that the graduate leave University equipped with the skills and strategies to locate, access, retrieve, manage and make use of information in a variety of fields, rather than with a finite body of knowledge that will soon be outdated and irrelevant. Mastery of these skills provides the

potential for Lifelong Learning, which will no longer be dependent on a lecture centered exposition of knowledge but which provides the student with an awareness of the relevance and purpose of their own learning.

For the first time in the country ILA has made a noble attempt in selecting the theme of the conference: **"Libraries, Information Literacy and Lifelong Learning"**. There are some stray attempts wherein the topic is partially discussed at the National level forums. It is the firm belief of ILA that through this National Conference, a new era will emerge in information and Knowledge Society. Indian Library and Information profession is taking birth. Through this conference ILA is hoping for the stimulating and highly illuminating issues to be discussed in the technical sessions, so that a concrete outcome will emerge. The consolidated resolutions will be brought to the notice of the concerned authorities to take appropriate steps to formulate National Information Literacy mission and National Information Literacy Task force through which the Information Literacy movement will be moved further. Therefore I take this opportunity to appeal to all the learned and distinguished citizens, professionals and academics to support ILA in starting the Nation wide Information Literacy and Lifelong Learning Campaign.

The Indian Library Association is organizing its 51st All India Library Conference with the main objective of bringing the librarians across the country on one platform. The main theme of the conference is **"Libraries, Information Literacy, and Lifelong Learning"** with three sub-themes. I take this opportunity to congratulate Dr. (Mrs.) Ashu Shokeen, Organising Secretary, Sh. R. D. Mehla, Librarian of Jawahar Lal Nehru Library, Kurukshetra

and Sh. Krishan Gopal, Librarian of National Institute of Technology, Kurukshetra, Co-organising Secretaries and their dedicated and committed team for hosting and organising this conference. I am very much thankful to the paper contributors of the conference and the editorial board members for bringing out the proceedings volume in a meticulous way and all office bearers of ILA for their valuable help. I wish the 51st All Indian Library Conference a great success and hope that the deliberations will greatly benefit the library and library science profession in a long way.

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President, ILA
and
Librarian
Jawaharlal Nehru University
New Mehrauli Road, New Delhi – 110067.

PREFACE

We are glad to present before you the pre-conference papers volume of the 51st All India Library Conference being held at Kurukshetra, is a place of great spiritual significance, the land of the historical battle of 'Mahabharata' and where the lord Krishna delivered the divine message of "Shrimad Bhagwad Gita". The place from where knowledge spread far and wide and also chosen as the capital by King Harshwardhana.

Librarians have been at the forefront of identifying the importance of information access and usage, researching and advocating for processes by which the associated skills can be taught and learned. Librarians and information specialists have historically fought uphill battles defending their value to learning organizations. While the information literacy paradigm is seen by most educators as essential to the development of 21st century lifelong learning skills, service to information literacy programming has often been the rule.

Change is part of the response made by higher education to the challenge presented by the emergence of IT- and information – rich learning environments. Considering the challenges faced by the profession as a whole, the Indian Library Association decided to organize its 51st All India Library Conference on the emerging theme "Libraries, Information Literacy, and Lifelong Learning". The conference is being held at Kurukshetra from 16th to 18th December 2005. To help and promote exchange of views on "Libraries, Information Literacy, and Lifelong Learning" among the professionals working in different environments such as academic, public and special libraries across the country and abroad.

This volume is a snapshot taken in the midst of change. As such, it captures the thinking and experience of some of those who are implementing change, some of those who are looking back on it, and some of those who are looking forward to the next evolution. It also includes input from those who are viewing the change process from a research perspective. Although the collection is predominantly from ICT in Libraries, Information literacy and lifelong learning, there is also some consideration of the school and public libraries. And although the largest number of papers comes from Impact of ICTs on Libraries and Information Communication, this is nevertheless an international collection, for

it reflects changes that are happening globally. The convergence of information and IT literacies is a change still happening, and this collection will not be the last word on it. We have received an overwhelming response from the LIS professionals by way of contributing papers for this conference. We had received considerable number of articles. The editorial committee reviewed them thoroughly and short-listed. The volume is organized into three sub-themes with 110 papers inclusive of 62 abstracts (because of space constraints), which are summarized under various sub-themes as below:

Sub-theme I: Impact of ICTs on Libraries and Information Communication

This section has sixty two papers including forty abstracts on the various components of the sub-theme viz. Automated, digital, virtual, hybrid/ poly media libraries, Library consortia and the web, Library and information networks, Hypermedia and multimedia, By-products of the convergence, confluence, and transmutation of ICTs in the form of: e-journals, databases, portals, subject gateways, bulletin boards, directories, search engines, scholarly discussion lists, mailing lists, and computer conferences, and Customization and personalization, end-user empowerment.

Sub-theme II: Information Literacy

Thirty one papers have been included in this section including twelve abstracts on the various topics of the sub-theme viz. Concept and practice of IL, Evolution of IL, Role of library professionals, library associations, and other agencies in promoting IL, Elements of IL: Traditional, visual, media, computer, digital, and network literacy, Standards and performance indicators, Cultural and social issues, Case studies of IL in different types of libraries, Measurement and evaluation criteria, Information literacy models and programmes, and Use of networks in learning and teaching of IL.

Sub-theme III: Lifelong Learning

This section has seventeen papers including ten abstracts on diverse areas of the sub-theme viz. Symbiosis of IL and lifelong learning, Personal and professional competencies, TQM, Learning organization, and Benchmarking, Leadership and upward

management, Systems thinking, Personal mastery, Mental models, Shared vision, Team learning and Knowledge management and wisdom administration.

Printer M/s Om Laser Printers, Delhi has done a wonderful job, in spite of a short notice of time. The Editorial Committee takes this opportunity to congratulate and thank both the contributors and printer for their cooperation in bringing out the volume in time.

We hope the papers in this volume will be of immense use not only for Library and Information Science Professionals, but also others who are interested in Library and Information Literacy.

We trust the discussions during the conference will lead to a fruitful exchange of ideas and these proceedings will prove to be a useful collection of the description of the state of the art practices in library and information centres.

Editors

Contents

CONTENTS

Foreword iii

Preface vi

Sub-Theme I:
Impact of ICTs on Libraries and Information Communication

1. **Virtual Observatory: A Brief Note of Virtual Observatory India**
   Hemant Kumar Sahu and Nirupama Umesh Bawdekar 1

2. **Dspace: Digital Library Software for Designing an Institutional Repository**
   Rajesh Das, Biswajit Das, Subhendu Kar and Swarnali Chatterjee 8

3. **Measures of Knowledge Prevention from Theft and Mutilation of Library Material in Smt. Hansa Mehta Library Using CCTV**
   Kautilya Shukla, Jyoti Bhatt and Nilesh Joshi 19

4. **Wi-Fi Technology: Visible Infrastructure for Networking**
   Suresh Jange and Amruth Sherikar 28

5. **Initiation of Automating Library Services at Smt. Hansa Mehta Library: An Excavating Experience**
   Jyoti Bhatt, Nilesh Joshi and Kautilya Shukla 35

6. **Model Information Technology Orientation Course for Librarians**
   M Madhusudhan 41

7. **Usage Impact of E-Resources of the Maharaja Sayajirao University of Baroda with Special Reference to E-Journals - A Bird's Eye View**
   Nilesh Joshi, Jyoti Bhatt and Kautilya Shukla 48

8. **Library Automation: A Case Study of Parul Arogya Seva Mandal Central Library, Baroda**
Dhaval Bhatt and Jimit Makwana 56

9. **Development of Library Networks in India and Its Impact on Library Services**
B D Kumbar and Shiddayya S Shirur 65

10. **Design and Development of Subject Gateway: Issues and Challenges**
M Krishnamurthy 70

11. **Futuristic View of College Libraries**
O P Hooda and Ajit Singh Siwach 76

12. **Future of Library Consortia**
M. Anjaiah and A. Jyothi 83

13. **Country Portals: Information Initiatives Towards E-Governance**
Anil Chikate and M A Hirwade 88

14. **Academic Library Networks in India - Present Scenario**
K Indasena Reddy, Nagabhushanam and A Sunil 97

15. **Impact of Information and Communication Technology on Libraries and Library Professionals in Bangladesh: A Study**
Md Anisur Rahman and Md Anwarul Islam 101

16. **Problems and Issues in Designing of Hypermedia for Learning**
Ramesh R Naik 109

17. **Use of Public Library Resources by Housewives: A Case Study**
B D Kumbar, Gururaj S Hadagali and A K Dasankop 115

18. **Digital Library Development: A Road Map**
A N Bandi 124

19. **Digital Information Services for Rural Development Community: Delivery and Management in A Networked Environment**
T Rama Devi 129

20. **Development of Digital Library of Indian Biomedical Journals at NIC**
Surinder Kumar, Sukhdev Singh and Naina Pandita 138

21. **Use of Online Resources in The Central Library, Banaras Hindu University Through Library Consortium**
Shuchita Singh 146

22. **User Empowerment in Academic Libraries**
R K Rout and C Mishra 151

Abstracts

23. **Application of Information Technology in Academic and Special Library and Information Centres In Chennai (Madras) - An Analytical Study**
V Kasirao, K Sheeladevi and B Ramesh Babu 158

24. **Role of ANCA Library in Promoting Computerized Information Literacy in Users: A Study**
S M Rokade and D Rajyalakshmi 159

25. **Need for Information and Communication Technology Training for Library Professionals**
Subodh Gopal Nandi 160

26. **Information Communication Revolution**
Preeti Mahajan 161

27. **Impact of ICTS on Libraries and Information Communication**
Nadeem Ulla Khan and Pavan Agarwal 162

28. **Hypermedia and Multimedia Resources in Libraries and Information Communication**
M P Upadhyay, R P Bajpai and Sujeet Kumar 163

29. **Impact of Information Technology on Library and Information Professions**
Bhawna Khora and Vindu Anand 164

30. **Impact of ICTS on Libraries and Information Communication**
Manju Kumari 165

31. **Library and Information Networks in Modern Era**
Naresh Chandra Verma 166

32. **Role of INFLIBNET: With Special Reference to Manipur**
Chongtham Vikas and Th Purnima Devi 167

33. **Criterion for Using Internet by Teachers and Researchers in Universities of North-Western India**
Chetan Sharma 168

34. **A Study of Use of Internet in the Engineering Colleges of Punjab, Haryana and Himachal Pradesh**
Amritpal Kaur and Rajeev Kumar 169

35. **Electronic Mail Optimization in Electronic Libraries**
Puspanjali Jena and Sucharita Pradhan 170

36. **Study of Websites of Library and Information Networks in India**
Shalini Lihitkar and Pratibha Sarode 171

37. **Web Search Engines: A Comparative Study**
Shehbaz Husain Naqvi 172

38. **Google Scholar: A Scholarly Search Service**
Bharat Kumar and D S Dabas 173

39. **Subject Gateways: A Rout to Quality Controlled Internet Resources**
Rajender Singh Bist, Ramesh Kumar Goyal and Kamal Kishore Joshi 174

40. **Listserv A Virtual Assistant of Professionals in Digital Era**
Raj Kumar Bhardwaj 175

41. **Use of ICT in Rural India: A Case Study of Kishan Call Center**
Surendra Kumar and S Kumar 176

42. **Digital Libraries in Developing Countries: *Some Issues***
Keshava and V D Joshi 177

43. **Role of the Academic Libraries in the Digital Age: Rethinking Towards Place to Space**
Ramesha 178

44. **Digital Libraries and Preservation of Digital Materials**
Amrit Pal Kaur and Sarita Rani 179

45. **Digital Library: Link to E-Learning**
Mamta Malik and Anil Kumar Jain 180

46. **Digitization of Internal Technical Reports of Centre for Advanced Technology: An Experience**
P Rajendiran 181

47. **Digital Library Development: A Road Map**
A N Bandi 182

48. **Library Services to Blind Users in Digital Environment: Their Fundamental Right in the Information Age**
Rajesh K Bhardwaj, R K Shukla and Y B Kamboj 183

49. **Constraints in Evaluating Acquisition Operations and Book Suppliers Using a Library Automation Package**
Sujata Mandal and V K J Jeevan 184

50. **Future of Libraries and Role of Librarians: A Perspective**
Sangita Gupta and Ravi Sharma 185

51. **Changing Forms of Information in Electronic Era**
S K Patil, R V Chikate, P P Wadekar and S Joshi 186

52. **Electronic Journal: Implications on Traditional Library Process and services**
Pavan Agarwal, Rajender Singh Bist and Nadeem Ulla Khan 187

53. **Better Place: Where the Users Get Information**
A Sunil and Soora Sudheer 188

54. **The Changing Face of Libraries**
Ashish Kumar and S K Sharma 189

55. **Library and Information Network**
Babita Garg 190

56. **Marketing of Library and Information Services in University Libraries: A Need of the Hour**
Sarita Rani 191

57. **Measuring the Quality of College and University Library Services**
Abdul Majeed and M Bavakutty 192

58. **Design and Development of *Himalayan Studies* Information System: A Proposed Model**
Anil Singh and J N Gautam 193

59. **Role of International Agriculture Library Networks: With Special Reference to Digital Information Resources and Service through Internet**
H.M. Chidananda Swamy, K.T. Santhosh Kumar and S L Kadadevarmath 194

60. **LIS Resources on the Internet**
Yogesh B Kamboj and Rajesh K Bhardwaj 195

61. **Role of Digital Library in Modern Society**
Vijaya Pundir and S K Sharma 196

62. **Open Index Initiative: A Cooperative Effort to Develop an Online Database for Indian Social Science Literature**
G K Manjunath and S L Sangam 197

Sub-Theme II:
Information Literacy

63. **Role of Librarians As Presented in the Information Literacy Models**
A K Baradol and V Gopakumar 198

64. **Need for Information Literacy Activities in the Changing Higher Education Environment in India**
C R Karisiddappa and Iqbalahmad U Rajgoli 209

65. **Promoting Information Literacy in Higher Education**
K T Santhosh Kumar and Santhosh Kumar 221

66. **Information Literacy and Right to Information**
Babita Sharma 229

67. **Information Literacy: It's Impact on Teaching and Learning in 21st Century**
A S Rao and B R Nagar 237

68. **Need for Information Literacy Education in Kurukshetra University**
Manoj K Joshi and Sanjeev Sharma 249

69. **Information Literacy and Continuing Education: A Teacher's Views**
Namarta Khairah 259

70. **Information Literacy Program for Academic Libraries**
Neela Deshpande and Vandana Shelar 265

71. **Information Literacy and Lifelong Learning: Role and Responsibilities of Librarians in Fostering a Learning Culture**
Pradeepa Wijetunge 270

72. **Beyond Information and Information Literacy: Lifelong Learning for Staying Ahead of Change and Competition**
Jagtar Singh 280

73. **National Information Literacy Programme: Need for Enriched Approach**
K John 283

74. **Information Literacy: Need To Promote the Use of Digital Information Services in Modern Era**
A Jayaprakash and V Yugender Gupta 292

75. **Information Literacy**
Kshipra Sardesai 302

76. **The Role of Information Literacy in Higher Education**
V Nagabhushanam, A Sunil and T Javeer 306

77. **Need of the Managerial Skills for Library Professional**
Rajesh Kumar 313

78. **ICT for Learning Process of Visually Impaired Students: A Case Study of Helen Keller Unit of J N U Library**
Sajjan Singh and Muttayya Koganuramath 318

79. **Motivation of Library Professionals in Knowledge Management: The Role of the Librarian in the Changing Scenario**
Preeti Patel and G H S Naidu 331

80. **Librarianship to E-Librarianship: A Paradigm Shift**
Meeta Rathod 339

81. **Information Literacy: Models for Teaching and Research**
D Chandran 349

Abstracts

82. **Bridging the Knowledge Gaps Understanding the Confluence of Information Literacy and Life Long Education**
D Rajyalakshmi and Chitra Rekha Kuffalikar 359

83. **Information Literacy**
Dasharath Khose and Rajendra Marwade 360

84. **Information Literacy**
Ashish Kumar and S K Sharma 361

85. **Information Literacy for the College Teachers of Kolkata: Some Observations**
Susmita Chakraborty 362

86. **Ranganathan's Five Laws and Information Literacy**
Khaisar Muneebulla Khan 363

87. **Information Literacy - Concept and Practice: A Case Study of Information Literacy in A G D Goenka Public School**
Madhu Bhargava 364

88. **Enhancing Information Literacy in University Libraries: A Conceptual Model**
Nalini A Raja 365

89. **Information Literacy**
R G Dharmapurikar and D L Joshi 366

90. **Information Literacy: A Challenge and Need for the Rural Communities**
L Shanta Meitei and Th Purnima Devi 367

91. **Information Literacy and Libraries: An Overview**
S S Pawar, N S Shokeen and Anita Chhatwal 368

92. **Information Literacy Competency Standards for Higher Education and Its Implication in India**
Subhajit Choudhury, Leena Shah and S Kumar 369

93. **Information Literacy in a Global Information Society**
Taruna Joshi 370

Sub-Theme III:
Lifelong Learning

94. **The Role of Hybrid Libraries in Life Long Learning**
Neelam Choudhary and M Natarajan 371

95. **Knowledge Management in Libraries: Emerging Perspectives and Challenges**
Anand Prakash Yadav 381

96. **Knowledge Management: Critical Resource Management for Organizational Success**
T M Khan, Ashu Shokeen and P K Choudhary 394

97. **Knowledge Management in Libraries**
Habibur Rahman Khan and Tanveer Haider Naqvi 404

98. **E-Learning: An Overview**
Anita Chhatwal and S S Pawar 411

99. **Knowledge Management in Libraries: An Overview**
Rajesh Kumar and D V Singh 416

100. **Knowledge Management Framework for Business Innovation Model**
Pankaj Kumar and A S Rao 422

Abstracts

101. **Creation of Knowledge and Its Management**
Abdul Majid Baba 431

102. **Some Aspects on Knowledge Management in Digital Age**
Ch Ibohal Singh,N Vidyavati Devi and Th Madhuri Devi 432

103. **Knowledge Management and Wisdom Administration**
P S Bodke and R N Shrisat 433

104. **Knowledge Management In Libraries: Concept and Issues**
Hukam Chand Yadav 434

105. **Role and Scope of TQM In Library and Information Sector**
Jaya Kalra and R.K.Verma 435

106. **Information and Communication Technology In E-Education**
Abdul Momin Midda and Sripati Mukhopadhyay 436

107. **Total Quality Management In Engineering College Libraries: A Study**
B.U.Kannappanavar and H M Chidananda Swamy 437

108. **Reading Habits: A Life Long Process Of Learning**
Sanjay Selhi and Vinod Gautam 438

109. **Leadership and Upward Management**
Milan Govind Natekar 439

110. **Knowledge Management: A Challenging Role for Librarians In The ICT Era**
G Sasireka 440

A STUDY OF USE OF INTERNET IN THE ENGINEERING COLLEGES OF PUNJAB, HARYANA AND HIMACHAL PRADESH

Amritpal Kaur[*]
Rajeev Kumar[**]

ABSTRACT

Internet has become a powerful resource of information for all kinds of subject fields. The Internet might thus be described as a 'sea of information', subject to the ebb and flow of various forces (political, corporate, institutional, etc.), creating an ever-shifting shoreline. Every information seeker is getting help in any manner and no area of any subject has been left without the impression and implication of it.

The paper examines the use of Internet in the engineering colleges of Punjab, Haryana and Himachal Pradesh. A well structured questionnaire was distributed among the Internet Authorities i.e. System Administrators, System Managers and Internet Section In-charges of the 66 engineering colleges under study to find out the state of Internet connectivity available in the colleges, Internet Service Providers chosen and types of Internet browsers used and demonstrates and elaborates the status of the services provided to the Internet users in the engineering colleges of three states. It also analyses the system details, purposes of Internet use and users' satisfaction with the facilities provided in colleges. Suggestions have been given for the betterment of Internet services in the engineering colleges under study.

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ACADEMIC LIBRARY NETWORKS IN INDIA - PRESENT SCENARIO

K Indasena Reddy[*]
V Nagabhushanam[**]
A Sunil[***]

ABSTRACT

Explains the library network and scenario of academic library network in India. Enumerates the general consensus and a favorable environment for establishing a network of libraries at local, regional and national levels.

1 INTRODUCTION

Information Technology (IT) has been making such animpact on different sectors of human activity that the present period has cometo be called as Information Age. Its impact on libraries, their management and their services is no less. In the context of library and information management, IT has become synomymous with automation and networking of libraries and information centres. In the Information Age, academic libraries have to gear up to meet the challenges of ever-increasing volume of information, decreasing ability of libraries for caprehensive acquisition of documents, growing demands of increasing number of users, and the complex and multi-faceted user requirements. To overcome these and related problems, cooperation and sharing of information resources through networks assumes importance.

2 LIBRARY NETWORK

A library network is broadly described as a group of libraries coming together with some agreement of understanding to help

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each other with a view to satisfying the information needs of their clientele. UNISIST II working document defines Information Network as a set of inter-related information systems associated with communication facilities, which are cooperating through more or less formal agreements in order to implement information handling operations to offer better services to the users. The National Commission on Libraries & Information Science in its National Programme Document (1975) defines a network as two or more libraries engaged in a common pattern of information exchange, through communications for some functional purpose.

3 NETWORK DEVELOPMENT IN INDIA

Some factors that are responsible for the development of library and information networks in India are:

(i) The report of the working group of the planning commission on modernization of library services and informatics for the seventh five year plan, 1985-90

(ii) The National Policy on Library & Information systems document (1986) accepted by the ministry of HRD, Government of India.

(iii) The report on national policy on university libraries prepared by the Association of Indian Universities (1987)

(iv) The UGC report on information systems for science and technology under the Department of Science & Industrial Research (DSIR) Government of India has been vigorously promoting an integrated approach to library automation and networking

4 LIMITATIONS OF NETWORK DEVELOPMENT

A network may fail in the early stages if there is not proper planning or if adequate funds are not available. Moreover, a common memorandum of agreement signed by the participating libraries at the institutional level is essential for the success of a network venture. On a more practical level, catalog data must be in a standard, machine readable form for it to be shared and exchanged. And, finally, a continuous flow of external assistance is crucial for the network's survival.

5 PRESENT SCENARIO OF LIBRARY NETWORKS OF INDIA

The University Grants Commission has set up an autonomous Inter-University Centre in 1991 called INFLIBNET. INFLIBNET (Information and Library Network) Centre in national level working together with various academic institutes towards digitizing the resources across the country for developing national union databases for library resources. It is involved in modernizing university libraries in India and connects them through a nation-wide high-speed data network. It promotes automation of libraries, develops standards, creates union catalogues of serials, theses, books, monographs and non-book materials; provides access to bibliographic information sources; creates database of projects, institutions, specialists; provides training, etc. Almost all academic libraries, especially university libraries, are members of INFLIBNET.

In addition to above, some other network centres such as :

(i) Developing Library Network (DELNET)
(ii) Biotechnology Information System (BTIS)
(iii) Scientific and Industrial Research Network (SIRNET)
(iv) Technology Information System (TIFACLINE)
(v) Calcutta Library Network (CALIBNET)
(vi) Madras Library Network (MALIBNET)
(vii) Bombay Library Network (BONET)
(viii) Mysore Library Network (MYLIBNET)
(ix) Pune Library Network (PUNENET)
(x) Ahmedabad Library Network (ADINET)

6 CONCLUSION

The explosion in the amount of literature that is available, increases among the number of users and their different needs, and the application of electronic media are forcing libraries to construct and participate in networks.

Networks are the ultimate goals of library autoamtion. At present, a large number of libraries and information centers are forming networks. The advent of computer networking as an accepted part of the library and information infrastructure has had a very significant impact on the way in which library and information systems are perceived. India is thus on the threshold to a new era of computer communication networks both for general purposes

and for library and information purposes. Thus Indian academic libraries with electronic platform will join information super highway - the electronic libraries, the digital libraries at local, regional, and national levels and enter into the knowledge age of 21st Century.

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APPLICATION OF INFORMATION TECHNOLOGY IN ACADEMIC AND SPECIAL LIBRARY AND INFORMATION CENTRES IN CHENNAI (MADRAS) - AN ANALYTICAL STUDY

V Kasirao*
K Sheeladevi**
B Ramesh Babu***

ABSTRACT

Information Technology (IT) is the effective tool for compact storage, easy retrieval and speedy access to information in Library and Information Centers (LICs). The developed countries have the resources and the technology to adopt and absorb quickly the new methods of information handling in their work culture. On the other hand, the developing country like India is facing several problems in IT based information handling methods in their library and information centers. The application of IT in different types of libraries in India has gained sufficient momentum and it is of continuing interest to the information professionals in order to provide IT based services. The paper covers the areas of IT applications, collection development policy, manpower development policy and the attitudes of staff towards IT application working in academic and special library and information centers under survey. Finally, it also analyses the reasons for poor application of IT, if any and concludes objectively that the application of IT in LICs would certainly put an order and bring out a sequence of operations in Information Management without much of Human intervention.

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BETTER PLACE: WHERE THE USERS GET INFORMATION

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ABSTRACT

The Internet has transformed culture into a learning society, at anytime, anywhere of the learning opportunities. The Internet can available to the student, encyclopedic source of information. With the Internet at home, school, work, or through a library, it is simple for anyone to look up virtually any topic and immediately find many resources that offer relevant information in just a few clicks. Librarians see this accessibility as both a threat and an opportunity.

In the web technology, libraries and Information centres have always been about information management and although the format of the information changes, the library and Information center will be the best place to manage it. The 21st Century IT means that any medium sized organization with web ambitions can now spend more money almost instantly. Websites are an integral part of organization and used to research and information management transactions and communication. The paper examines the catalog systems of the library, the web sites are the better place where the users can get the information very fast and concludes with the Web Blog.

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CHANGING FORMS OF INFORMATION IN ELECTRONIC ERA

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ABSTRACT

Computer and communication technology has revolutionized the information era. Information that is being generated by individuals, institutions and government bodies etc. is so vast and voluminous that it needs special storage devices for retrieval. Conventional print media had given place to microform, but later it was realized that even this media was not sufficient to cope up with the ever-increasing volume of information. To organize this voluminous information in a systematic way requires new media. The librarians and information scientists, information managers found the solution of electronic media.

Main focus of the article is on the information needs of users & information seekers. It also trace the changing form of information, from traditional to present In the course of the discussion, the paper first highlights the trend and nature of the physical form in which information content is currently being made available for users access and use in electronic information environments. It then attempts to determine why the prevailing information need to users is coming in to being and how they are shaped in electronic information environments. It also discusses changing scenario of physical form of information from book to electronic form.

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CONSTRAINTS IN EVALUATING ACQUISITION OPERATIONS AND BOOK SUPPLIERS USING A LIBRARY AUTOMATION PACKAGE

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ABSTRACT

The objective of the paper is to discuss the constraints faced while evaluating the Acquisition system using the Library Automation Package, LibSys at the Central Library of Indian Institute of Technology Kharagpur. The Acquisition Section of the Central Library, IIT Kharagpur collects requests for books from near about 500 faculty members attached to over 30 departments of the Institute. It then interacts and places orders for these books with around 40 suppliers who are local as well as outsiders, checks and accessions the procured books and transfers them to the Technical Processing Section for further processing such as classification, cataloguing, and indexing. The Acquisition Section is also interested in assessing the performance of its different suppliers. The paper discusses the constraints faced while collecting data and proposes the need for 'customer specific' report options in commercial software packages. The paper also attempts to highlight the importance of suitable options in automation packages for evaluating the performance of different sections of library and its various stack holders.

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COUNTRY PORTALS: INFORMATION INITIATIVES TOWARDS E-GOVERNANCE

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ABSTRACT

Governments all over the world are attempting to move from the era of efficiencies in the public sector to that of effectiveness in providing services. They are convinced that a significant transformation of governance is possible if the tools of the digital world are strategically deployed. One of the early initiatives taken up by nations embarking on a major e-government program is the launching of a country portal. In the present paper, a comparative study of the country portals of four major countries viz. USA, UK, Singapore, and India has been done. The country portals of USA, UK and Singapore are more advanced and organized than India Image portal. It has been suggested that the country portals should be more online service oriented and designed and operated in such a way that they are easily and equally accessible to the every citizen.

1 INTRODUCTION

Libraries provide valuable services to the academic community, selecting and organizing information resources that support research and education. As the use of electronic resources has grown libraries have deployed portal or gateway systems online to p digital realm. Library portals enhance the value of electronic resources with functions such as resource description and discovery, combined searching of multiple resources, context-sensitive linking, and personalized services.

Country Portals play a major role in disseminating the information about a nation to its citizens and non-citizens as well. It facilitates direct interaction of the people with the government in e-governance era. E-governance is the latest trend in the governance process all over the world. Good governance can be enabled by e-governance if appropriately implemented. Good

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governance will be SMART (Simple, Moral, Accountable, Responsive and Transparent) governance, which is so essential today in countries all over the world. All the developed nations of the world such as USA, UK, Canada, Australia and Singapore have gone a big way into e-governance. Also developing nations like India, China, Sri Lanka, Philippines, Brazil have also progressed well in e-governance implementation.

2 BENEFITS TO CITIZENS

(i) Access to all requisite information. E-governance projects provide 24 hours, 7 days a week online access to government services to all the citizens

(ii) Blurring of the boundaries of government departments

(iii) Reduction in end-to-end time

(iv) Reduction in transaction cost

(v) Transparent process

(vi) Equality of access and facilities

(vii) Removal of middleman

(viii) No scope for discretion

(ix) No need to be master of the government procedures.

(x) Greater participation in national efforts

(xi) Easy to follow up

3 COUNTRY PORTALS

One of the early initiatives taken up by nations embarking on a major e-government program is the launching of a country portal. The attraction of creating a one stop shop for citizen and business services is irresistible as it becomes immediately visible and if developed on the right lines, could give great fillip to the e-government movement. A country portal is a gateway to the multitude of web sites that provide basic information of the government agencies and services provided by them. At a further stage of their evolution, country portals can actually provide online services. The ideal of country portals is to reach a final stage where services are provided in a truly integrated manner.

4 SCOPE OF THE STUDY

In the present paper, is a comparative study of the country portals of four major countries viz. USA, UK, Singapore, and India has been done? The data have been collected from the official websites of these portals during 21st August to 1st September 2005. While collecting the data emphasis is given on the links provided on the home pages since home page serves as the content page for the web site.

5 FIRSTGOV, USA

FirstGov.gov <http://www.firstgov.gov> is the official U.S. gateway to all government information. It is an interagency initiative administered by the U.S. General Services Administration (GSA). It was launched on September 22, 2000. The GSA and 22 federal agencies funded the initiative in 2001 and 2002. Since 2002, Firstgov.gov has received an annual appropriation in President Bush's fiscal year budget. It links all the prominent Federal, State and local government websites. It can search over 186 million web pages contained in the linked sites. Important forms can be downloaded from the site. It provides useful links to the relevant portals and websites of the federal and state agencies, which are designed to give specific services to the citizens and businesses. Important online services provided are- renewal of driver's license, filing of tax returns, applying for government jobs, applying for change in address, etc. Fig.1 presents the home page of the Firstgove.

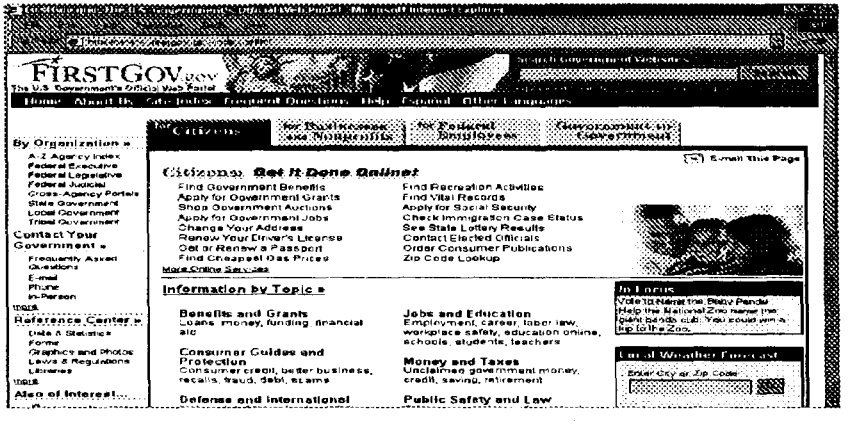


Fig.1: Home Page of FirstGov

6 DIRECTGOV, UK

Directgov <http://www.direct.gov.uk> is the place to turn for the widest range of government information and services. The site can be browsed by audience groups such as 'disabled people' and 'parents' or by topics including 'money, tax and benefits', 'employment', 'education and learning' and 'motoring'. Access is also permitted by definitive government directories or by using the search engine. As well as government departments, the site links through to relevant third parties which can offer additional trusted advice and support. The home page of the Directgov is shown in Fig.2.

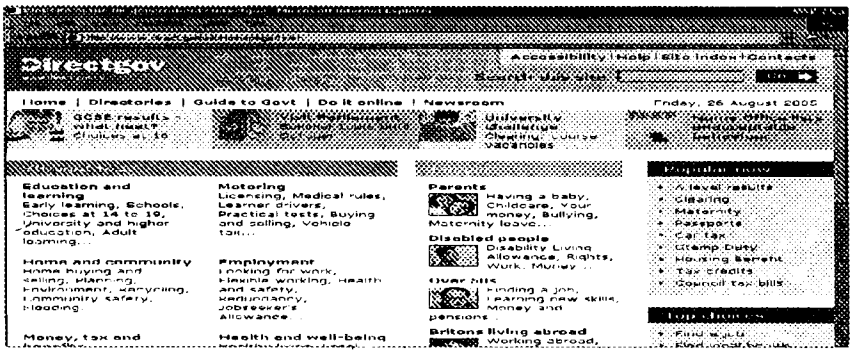


Fig. 2: Home Page of DirectGov

7 E-CITIZEN, SINGAPORE

The e-Citizen <www.ecitizen.gov.sg> portal heralds a new era for the Singapore Public Service by transforming the way in which the public interacts with government agencies. Launched in 1999, the e-Citizen portal is an initiative owned by the Ministry of Finance and managed by the Infocom Development Authority of Singapore (IDA). The portal is positioned as the first-stop for government services on the web and organised with the needs of the citizens and customers in mind. The end goal is to build a leading e-Government, which delivers more convenience and benefits to all individuals who live, work and play in Singapore.

The e-Citizen portal enables users:

- To search for and access a diversity of information from government agencies, and
- To conduct a wide range of transactions online with government agencies.

The portal has been designed with the users' needs in mind. Navigating the portal, individuals can find information and services in user-centric packages integrating public services across different government agencies. Government ministries and agencies through the e-Citizen portal offer a wide range of e-services. The home page of e-citizen is shown in below Fig.

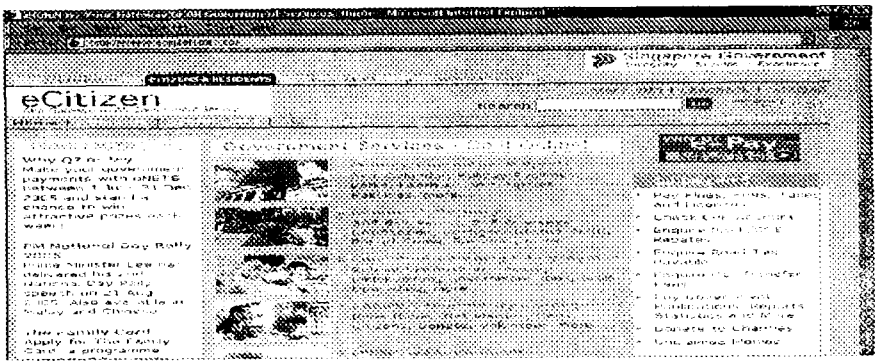


Fig. 3: Home Page of E-citizen, Singapore

8 INDIA IMAGE PORTAL

India Image <http://indiaimage.nic.in/> is the Official Government of India Portal developed with an aim to provide comprehensive, accurate, reliable and one stop source of information about India and its various facets including its Government, heritage, economy, news, online citizen services etc. Links at various places have been provided to other official Indian Government Portals/websites. The Portal was first launched in 1996 and has undergone revamps ever since, in terms of design and content. The portal receives, on an average, 12 million hits per month, from surfers all over the world who are looking for information about India and its different aspects. The Portal is developed and maintained by National Informatics Centre (NIC), India's premier ICT Organization under the aegis of the Department of IT, Ministry of Communications and Information technology. Fig.4 presents the home page of India Image.

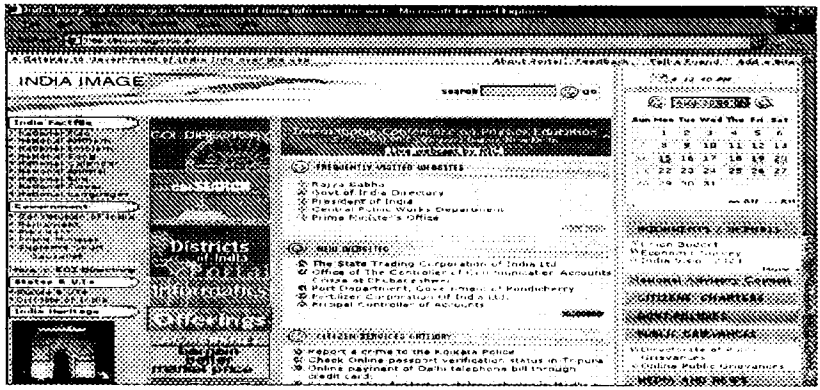


Fig. 4: Home Page of India Image

9 ANALYSIS OF DATA

The official websites of four country portals were observed carefully to note down the salient features of the portals, content coverage, online services provided and mode of online payments. The observations are reported in Table-1. Based on these observations conclusions are drawn and suggestion offered.

Table - 1: Features of Country Portals

Sr. No.	Feature of Country Portal	Availability of feature in			
		FirstGov USA	DirectGov UK	e-Citizen Singapore	India Image
1.	A-Z index of government bodies / agencies				
2.	Contact your Government				
3.	News				
4.	Site map / Index				X
5.	Forms for download				
6.	Privacy and security policy				
7.	Frequently Asked Questions				
8.	Feedback		X		
9.	Help Menu				X
10.	Public Consultations	X		X	X
11.	Basic data and statistics		X	X	X
12.	Libraries (separate link on home page)		X	X	X
13.	Search facility • Simple keyword search • Advanced/Boolean search				
14.	Laws and regulations				

15.	Link giving information about e-governance	☐	X	☐	☐
16.	Local Weather Forecast	☐	X	X	☐
17.	Facility to add a site	☐	☐	☐	☐
18.	Link displaying information for non residents	X	X	☐	X
19.	Link for Business community on home page	☐	☐	☐	X
20.	Link for services for employees on home page	☐	X	X	X
21.	Online Citizen Services				
	• Apply for benefits	☐	X	☐	X
	• Apply for citizen ID/nationality	X	☐	☐	X
	• Renewal of Driver's license	☐	X	X	X
	• Filing Tax Returns	☐	☐	☐	Deep Search
	• Online Birth and Death Registrations	☐	☐	☐	Deep Search
	• Online marriage and divorce registrations	☐	☐	☐	Deep Search
	• Culture, Recreation and Sports information	☐	X	☐	☐
	• Defense and Security	☐	☐	☐	☐
	• Education and Learning	☐	X	X	☐
	• Employment				☐
	• Health and Environment				☐
	• Housing				X
	• Transport and Travels				
	• State Lottery Results				
22.	Government to Government services				
	• Refer to Government budgets	☐	☐	☐	☐
	• Seek Disaster management information	☐	X	X	X
	• Vital Statistics	☐	☐	☐	☐
	• Obtain Geo-spatial information	☐	X	X	☐
	• Access to Government publications	☐	☐	☐	☐

23.	Online Payment Modes • eNETS Credits and eNets Debit • Credit cards	X □	X □	□ □	X □

Note: □=Yes, X= No

10 OBSERVATIONS AND SUGGESTIONS

(i) It has been observed that the country portals of USA, UK and Singapore are well organized compared to India.

(ii) Important links which work as User Support System like Site map/Index, Frequently Asked Questions, Help Menu are not observed in case of India Image Portal. It is suggested that these links to be given on the home page itself.

(iii) It is observed that the India Image Portal is far behind when compared with USA, UK and Singapore portals as far as Online Citizen Services are concerned. In most of the cases like filing tax returns, birth and death registrations, marriage and divorce registrations, online registrations facility links are not available on the home page in India Image. User has to follow a deep search to access the facilities.

(iv) Providing links like A-Z index of Government bodies/agencies, Contact your Government, News, Forms for download, Privacy and security policy, Simple keyword search facility, Laws and Regulations, Add a site is common feature of all the four portals.

(v) Links like Basic data and statistics, Libraries, State lottery results, seek disaster management information is observed only in FirstGov, USA.

(vi) Except UK all the other three portals provide a separate link giving information about its e-governance.

(vii) A separate link displaying information for Non-residents is the unique feature of e-citizen country portal.

(viii) It has been observed that G2B i.e. Government to Business link is not provided on the home page of India Image.

(ix) It is suggested that a major link for e-governance projects should be provided on the home page itself, through which a novice user can also access the information about the projects as well as the online services being provided under these projects.

11 CONCLUSION

E-governance is the use of information and communication technology to promote more efficient and effective government, facilitate more accessible government services, allow greater public access to information and make government more accountable to citizens. One of the early initiatives taken up by nations embarking on a major e-government program is the launching of a country portal. Computer illiteracy is the only handicap in the e-governance system in India. Thus, e-governance applications have to be designed and operated in such a way that they are easily and equally accessible to the literacy-challenged users.

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CRITERION FOR USING INTERNET BY TEACHERS AND RESEARCHERS IN UNIVERSITIES OF NORTH-WESTERN INDIA

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ABSTRACT

Information is a prior need of any academic; it is only academics that lead the nation on the way of development and progress through research. Retrieving information through published material is not much common among researchers. Due to the diversification of paper culture in computer-oriented technology, the researcher and academicians are influenced very much with this emerging technology. They feel comfortable in the company of automated information resources and it leads them to the peak of satisfaction. In the computerized information sources Internet is on the height. Today Internet is a vital source of latest global information throughout the world. Present paper is also a study of Internet users. The purpose of present study is simply to know the reason behind using the Internet by researchers and teachers.

The paper examines the importance of Internet among the teachers and research scholars. The study is an effort to know why academics are attracting toward Internet.

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DESIGN AND DEVELOPMENT OF HIMALAYAN STUDIES INFORMATION SYSTEM: A PROPOSED MODEL

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ABSTRACT

The ever increasing information requirement, the complexity and economic factors like escalating cost of information, the enormous growth in publications and the emergence of subject specialization have compelled the librarians to share resources through information networks and systems. This paper suggests that there is need of networking of Himalayan Studies/Research Centres in India for effective resource sharing of Himalayan Information through Himalayan Studies Information System (HIMIS). The paper also discusses in brief the definition of Information System, objectives and needs of proposed Himalayan Studies Information System. Describe the different types of users of the proposed system, Institutions Engaged in Himalayan Studies / Research

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DEVELOPMENT OF DIGITAL LIBRARY OF INDIAN BIOMEDICAL JOURNALS AT NIC

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ABSTRACT

Journals have been at the forefront of digital preservation as of their critical role in scientific communication. The paper presents procedure for digitizing Indian biomedical journals 'medIND' to ensure the long-term preservation and access to electronic journals for medical paternity.

1 INTRODUCTION

Internet especially the World Wide Web has given thrust to new ways of communication and knowledge sharing. Digital libraries are considered to be a key application of Internet and web technologies. They enable the creation, organization, maintenance, management, access to, sharing and preserving of digital collections. Digital libraries are created today for different communities and in different fields such as education, health, culture and so on. Digital libraries bring significant benefits to the users. Some of them are - Always Available, Improved Access, Wider Access, Improved Information Sharing and Preservation.

In 1986, National Informatics Centre (NIC) and Indian Council of Medical Research (ICMR) jointly set up a centre called ICMR-NIC Centre for Biomedical Information. This Centre was recognized as the 17th International MEDLARS Centre in 1990 and now is well known as Indian Medlars Centre (IMC). National Informatics Centre (NIC) has been a pioneer in communicating medical research information through the use of Information Technology. This center is now emerging as a content creator and aggregator [5]. It has developed three major products that are available over Internet – a) UNcat (http://uncat.nic.in) - union catalogue of journal holdings of medical libraries of India; b) IndMED

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(http://indmed.nic.in) - A bibliographic database of Indian biomedical journals, and c). medIND (http://medind.nic.in) - full texts of Indian biomedical journals being indexed in IndMED and PubMed. NIC has been providing free access to these databases.

2 DIGITAL LIBRARY OF INDIAN BIOMEDICAL JOURNALS

Digital Library of Indian Biomedical Journals medIND has many functional and process components. Some of these are discussed below:

2.1 Selection of Journals

The scope of the Collection development policy is well defined to include only those Indian Medical Journals that are either indexed in IndMED or in PubMed database. The selection policy of IndMED is to include peer reviewed journals having at least published on time for the last three years. At present, IndMED covers 77 Indian biomedical journals. All the articles are assigned metadata using data input worksheet based on Common Communication Format of UNESCO. These articles are indexed using controlled vocabulary 'Medical Subject Heading (MeSH) list of US National Library of Medicine. It is being updating on an ongoing and timely basis can be accessed at <http://indmed.nic.in> which is searchable through web interface (Singh, 2001).

The securing of intellectual rights has been easier due to rapport existing with the publishers of these journals. To remove any ambiguity and to reach clear understanding with the publishers, a formal Memorandum of Understanding (MOU) was signed with the journals [represented by their editors] to make available their contents for the medIND project. At present, 37 Indian biomedical journals have signed a formal MOU with NIC. The aim of this understanding is to provide a rights framework under which cooperation is established between NIC and joutnals to provide their full content to the end user free of cost. The journal publishers provide the content and NIC does all the other activities like conversion, organization, hosting and providing access to the end users.

The salient features of MOU are given as below:

(i) The resulting materials will be stored and hosted on NIC server;

(ii) No fee will be payable to either party for providing content to NIC or converting into digitization;

(iii) On termination of the agreement, NIC shall provide continuing access to the digitized completed up to the date of such termination; and

(iv) The copyright of the data would remain with the respected Editors.

2.2 Acquisition of Source Materials

The acquisition of material is the important part of project management. The content is of three types - printed version, born digital, and online existing journal archives. This heterogeneous material is converted into homogenous digital content as given below:

(i) Converting Existing Print Media into Digital Format

Bulk of the archival and back volume content received is in form of printed copies of the journals. Each article, editorial and case study is scanned and stored as PDF (multi page) files. The files related to issue of a journal is put in a separate folder. File names are assigned as per a file naming policy that is based on bibliographic properties of content. The journal's content page of each issue is scanned, OCR and converted into HTML file. The content page in HTML format has all the links to the respective PDF files holding the articles.

(ii) Converting "Born Digital" Journals

These days, it is common to find journals being composed in DTP packages like PageMaker before they are printed. For such journals, the composed material is acquired with the cooperation of the editors/publishers of the journals. This is directly converted into the PDF files without the need of scanning. The quality of such PDF files is of much better quality. The name of the files is converted in accordance to the file naming convention. The content page of the issues is converted into HTML format and links are provided to the PDF files containing the full text articles.

(iii) Archives of On-Line Journals

There are few Indian journals that are already available on-line on the web. However since they are presently hosting on commercial web servers, it may not economical for them for continuing hosting back-volume of the journals. In such cases the archive can be moved to medIND after suitable conversion according to the policy of file names and file organization. This would ensure unique and persistent address for the contents in such archives.

2.3 File Naming and File Organization Policy

Unique and persistent URLs for each article are most desirable for such a project. To achieve this there has to be suitable policy for file names and file organization. Such a policy was formulated and adopted. This formed the core on which cross linking between references in IndMED and their corresponding full text file under medIND has been done. Salient features of the policy is as follows:

a) Directory Structure

The directory structure is as follows:

<http://medind.nic.in> /Journal Folder/
.../Year-Folder/
.../Issue Folder/
...Article Files

.../Article Folder/

i) Journal Folder

There is a folder under the site domain for each journal. The name should be unique for each journal folder. A unique three alphabet code has been created for each journal under MedIND called as MJID. This folder contains Year-Issue Sub-Folders and default (index.html) and other html files constituting the home page for the journal.

ii) Year (Sub) Folder

This folder contains the issue subfolders. The Year folder is of three character format 'cyy' whereas c is for century

and yy stands for last two digit of the year. For example, Year 2002 would be t02.

iii) **Issue (Sub) Folder**

This folder is named as "Inn" format having at least two character long. Each Issue folder contains a table of content html file with same name as folder name.

b) **Article File Naming Policy**

The file names of articles are given as per the format given below:

<MJID><Century-Year><Issue No.><Pagination><DOT><File Extension>

<MJID>: It is a unique identifier for each journal in IndMED and MedIND. It is of three alphabetical characters.

<Century-Year>: It represents the year of publication and of three characters. The first character represents the century and is an alphabet. Next two characters are numeric representing the year (first year would be taken if it is a block year).

<Issue No.>: A variable length of characters, starting with "i" followed by numerical characters represent the issue number.

<Pagination>: A variable length of characters, starting with "p" followed by numerical characters represents the starting page number of the article. In case more then one articles starts on the same page then a alphabetic character is suffixed to qualify each article sequentially.

<DOT>: The name portion of the file ends with a dot (.).

<File Extension>: Three character extensions are suffixed after the dot to represent the common file types.

2.4 Digitization

Thirty-seven journals have signed MOU till now and given the consent for putting their contents under medIND project. The content is being received in hard as well soft copies formats. Each format requires digitization process. These processes are described below:

2.4.1 Conversion from hard copies

a. Steps Involved in OCR to PDF document

(i) Scanning the document: Resolution has been fixed for text as 300 dpi whereas for table and image, the resolution is 600 dpi;
(ii) Each table is marked as an image as OCR most often distorts table;
(iii) The remaining document is OCRed and saved as Word Document;
(iv) Necessary corrections are performed such as spellings, special characters, color changing, layout of the text and references; and
(v) Quality checks: Each document is verified and passing quality test, is converted into PDF using Acrobat.

b. Steps in creating Table of Contents from scanned document

(i) Scanning the content pages of a journal, OCR and save in Word;
(ii) Necessary corrections are performed such as spellings, special characters in the Word document;
(iii) To design table of content in the same layout as given in the journal, it is designed in HTML format and saved as per naming convention. Hyperlink is given to each article; and
(iv) Quality Checks: Each link is being checked for correctness.

2.4.2 Conversion of born digital contents

a) Steps in converting born digital contents to PDF document

(i) Content is being received in the form of Page Maker format;
(ii) Converting from Page Maker format to pdf document and save it as pdf file as per the naming convention adopted;
(iii) Checking the completeness of the document; and
(iv) In case, image or page(s) are missing, these are scanned locally for completeness.

b) Steps in creating Table of Contents from soft copies

In case, table of content is available in digital format, it is converted according to the adopted convention otherwise it is done as described under section 'Steps in creating Table of Contents from scanned document'.

3 DESIGN OF DIGITAL LIBRARY MEDIND WEB SITE

The medIND project is having its own domain name at the Internet (http://medind.nic.in). It has pneumonic value and stands for Medical Journals on Internet [from India]. Home page gives details of the project listing of the participating journals. This listing is hyperlinked to each participating journal home page at the medIND web site. The site provides two approaches to access the journal articles. These are:

3.1 Browsing

Journals are hyperlinked and arranged in alphabetical order. Such hyperlinked list leads to pages giving details of selected journals such as editors, instructions to authors, contact address, parent body etc. Further, this leads to listing of issues of the journal by years/volume wise. The content page provides hyperlinks to the individual article.

3.2 Searching

The searching is being provided through the bibliographic database IndMED. Each record of the IndMED has been linked to the individual article in the MedIND site. The searching of the articles can be achieved through from http://indmed.nic.in as well as from http://mednic.nic.in web sites. The references will display icons indicating the availability of the full text.

4 CONCLUSION

In developing digital collection, issues of intellectual property rights have been dealt to strengthen the cooperation between editors and content service provider to facilitate access to digital content through Internet to end users in the area of biomedicine on non-commercial basis. The design of digital collection should be usable, flexible and simple enough to accommodate future changes and also enables other applications to utilize data for development of future applications. The naming convention of

digital collection is acted as bridge between metadata base and full text of content. This project fulfills the demand of providing full text of documents to health professionals free of cost throughout the world. It serves as a model for the development of similar collections in others S&T areas, medIND is a step in the process of making it as an open archive source where Indian journals covered in Medline database as well in IndMED database will be stored and will be provided access free of cost to health professionals throughout the world. This will give enough visibility and exposure to Indian biomedical journals and demand for Indian literature would be met through the medIND project. In future, more visibility to articles included in medIND journals would be provided by adopting and exposing metadata in OAI-PMH and RSS protocols.

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DEVELOPMENT OF LIBRARY NETWORKS IN INDIA AND ITS IMPACT ON LIBRARY SERVICES

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ABSTRACT

The computerization of library resources has introduced a new concept of resource sharing among the libraries. Besides improving services and operations for a better performance, libraries are also able to evolve effective computer networks towards optimum utilization of resources and facilities. Such efforts are there in many countries, including India. The paper presents brief description of various library networks in India and its impact on library services..

1 INTRODUCTION

In the present world, information is regarded as a major resource for any development activity. With the liberalization of economy and consequent globalization, the demand for information is increasing rapidly. Information is now recognized as a key component of strategic planning and decision-making. The advent of digital computers and modern telecommunication technologies has made possible the needed information available instantaneously. Internet and World-Wide Web (WWW) access are growing at a rapid pace. This will be the most preferred and probably the only mode of accessing databases, electronic journals and other multimedia databases. The networking and resource sharing in libraries are the powerful tools for both increasing productivity and enhancing to meet the changing needs of library users.

2 LIBRARY NETWORK

The network aims at evolving a mechanism of partnership in

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which each member has something useful to contribute to the others in the network. Basically, a co-operative venture of two or more libraries with a view to optimize the utilization of available resources.

The "computers are the brains of a new world information age; networks are the arteries and veins of the pumping information from place to place" (Chen, 1994). The information superhighway promises to be the network that brings together all other networks from the local to the global. Computer networks enable remotely placed computer systems to communicate with one another. The distance between these computers can vary from a few feet to thousands of kilometers. Today, "computer networks are being used to provide resource sharing between systems separated by countries. Users connected to these networks are able to share databases, software's and other computing resources. They are able to communicate with one another by sending electronic mail or initiating video conferencing session. Computer networks have been responsible for the development of many new applications, which require access to distributed resources", (Murthy, 1996).

Generally a library network is developed when a group of Libraries and Information Centers decide to share information resources through computer application. It is a set of inter-related information system associated with communication facilities, which are cooperating through more or less formal agreement in order to jointly implement information handling operations with a view to pooling their resources, and to offer services to the users. A library Network is a linking member to the computer resources by means of telecommunication connections.

3 OBJECTIVES OF THE LIBRARY NETWORK

The information storage and retrieval problem has become progressively more serious in recent years, especially in the areas of science and technology, where the volume of data and information is increasing at an unprecedented, nearly exponential rate. Libraries have been acquiring the printed and e-resources to fulfill their users' demand. But the ratio of information explosion and the cost of the resources in the market have been constantly appreciating from time to time. Hence, libraries cannot make such developments and have failed to satisfy of their users' requirement. Therefore library networks are solving such problems with the following objectives, viz.,

a) To provide access to a wider base of information resources;
b) To facilitate linkages with various national and international networks;
c) To rationalize acquisition and optimize utilization of information resources;
d) To promote standards and efficiency in the library operations and to generate new services;
e) To develop forums for interaction amongst information professionals; to seek solutions to common problems.

Recognizing the vital importance of and the drive need for the optimum utilization of available resources; the Library and Information Networks (LINs) have been developed in different parts of India since 1988. They are as follows:

(i) Information and Library Network (INFLIBNET)
(ii) Developing Library Network (DELNET)
(iii) Biotechnology Information System (BTIS)
(iv) Scientific and Industrial Research Network (SIRNET)
(v) Technology Information System (TIFACLINE)
(vi) Calcutta Library Network (CALIBNET)
(vii) Madras Library Network (MALIBNET)
(viii) Bombay Library Network (BONET)
(ix) Mysore Library Network (MYLIBNET)
(x) Pune Library Network (PUNENET)
(xi) Ahmedabad Library Network (ADINET)

4 IMPACT OF NETWORKING ON INFORMATION SERVICES

The needs and requirements of users have been changed enormously in the present information society and particularly in Science and Technology field. A single library cannot meet the requirements completely, and to solve this problem of users more and more number of libraries must work together. Hence, comprehensive information services must be based on modern advanced technology such as networking. Since Libraries and Information Centers are open to the users of whole society and what they offer are comprehensive services, a new relationship of interdependence and mutual-complementation should be established among libraries. Moreover, it is also a sharing relation that one can enter another's database and make full use of it. This

is possible only through the use of computer and modern communication networks. Network based library and information services will help to share the resource without increasing the book budget. The cost effective Internet technology has tremendously changed the role of Library and Information Professionals. The following are the few library services which will be render efficiently and effectively with the help of computer and modern communication networks.

(i) Catalogue Databases
(ii) Current Awareness Bulletins
(iii) Externally Purchased Databases
(iv) Remote Information Services
(v) Internally Published Newsletters, Reports
(vi) Bibliographic Information Services:
(vii) Full Text Access to Publications
(viii) Organization of Internet Resources and Providing Access
(ix) Promoting Discussion Forum
(x) Consortia-Based Services:
(xi) Pattern of Services
(xii) Contents of Service
(xiii) Electronic Newsletters
(xiv) Network-Based Electronic Serials:

5 CONCLUSION

In the field of Science and Technology (S&T) information is an important asset in the development of a country. The essential requirements for establishing library computerized networks are cooperation, coordination and automation. The slow development of computer application in the libraries of Karnataka is attributed mostly to weak resources, especially manpower and equipment. Many libraries do not have adequate computer man power both in terms of quality and quantity. Owing to low salaries, libraries have difficulty in recruiting professional staff. The computer staff tend to use software application rather than to develop library software by themselves according to the requirements of library operations. Library automation has thus not been a priority in the library development programmes. These are some issues affecting the implementation of computerized network among the Polytechnic Libraries in Karnataka. An important issue is the training and education programmes of librarians so as to enable them to

administer, operate and manage a computerized network. Basic to this idea is the creation of awareness of what computers can do to improve management and provision of services. In the library world, the state like Karnataka has still to work hard to achieve its overall library computerization plan.

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DESIGN AND DEVELOPMENT OF SUBJECT GATEWAY: ISSUES AND CHALLENGES

M Krishnamurthy*

ABSRTACT

Digital libraries are creating and promoting innovative information services by digitization of information resources. Due to the fast growth of information volume, proper description of distributed information is essential for effective information retrieval and filtering. Many proposals have emerged. When setting up a new gateway designing, interface, format, issues that arises. The aim of the gateway is to serve as a library guide to the resource and services. This paper deals with the problems in designing aspects and importance of the subject gateway.

1 INTRODUCTION

The term 'digital library' (DL) is used now a day to indicate both the system that implements the services of a globally accessible library and the digital content of the library. Digital libraries are set of electronic resources and associated technical capabilities for creating, searching, and using information (Borgman,2000). In this sense they are an extension and enhancement of information storage and retrieval systems that manipulate digital data in any medium (text, image, sounds) and exist in distributed networks. All types of libraries are applying online technologies to their resources and services. Synonyms for the digital library include virtual library, electronic library, and without walls. It is this type of library a hybrid of the print and digital, including a gateway to online resources that extends the library collection beyond its physical walls. They responded to the need to provide managed collections of resources, supported by effective resource description and subject access, available for browse and search access.

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As digital libraries and subject gateways grow, it becomes increasingly important to structure access for end users to avoid the problem associated with web search engines and their lack of terminology. One useful tool is this quest is the thesaurus.

2 SUBJECT GATEWAY

Subject gateways are Internet services, which support systematic resource discovery. They Provide links to resources (documents, objects, sites or services), predominantly accessible via the Internet. The service is based on resource description. Browsing access to the resources via a subject structure is an important feature. Subject gateway as a term was popularized in the UK Electronic libraries program (eLib), and it has been given currency by initiatives, which have been influenced by the eLib gateways. The gateways offer the user an alternative to the general approach of the commercial global search engines, but we need to gain a better understanding of users requirements for particular types of search during the research and learning process. It may be helpful to liken the subject gateway approach to the traditional departmental library as the users first port to all a place where the user feels comfortable in a known environment and is able to gain skills to navigate a limited area of information. It would be interesting to see how far we could draw parallels between the requirements of users of subject gateways and the users of "subject based" libraries. The users of both services benefit from an understanding of the boundaries and content of the information space they are accessing. (Greenstein, 2000)

3 CONTENT CREATION

Gateway provides a list of resources, pre-selected to meet users likely requirements, that are accessed by users via hyperlinks from the gateway to the resources that is located elsewhere. The establishing of the gateways as "a process of identification, filtering, description, classification and indexing before they are added which is freely available via the www". (Heery, 2000) The gateways do not "aim to replace other available tools ", but hope to offer a complementary services which will provide a targeted and focused area for discovery for the academic community". Libraries have been experimenting with a number of models for information systems to serve up Internet based content. These are information gateways, portals, and what some library professional are calling digital library service. Internet subject gateways are concerned both with taking advantage of the opportunities

offered by the Internet, and also acting as one possible solution to the problem of information retrieval and quality control which will be more effective than other solution such as search engines, metadata, classification schemes. Content creation is used here in the context of metadata as context. Services include access to complementary databases, web indexes of sites, personalization, current awareness, and other community building services being developed in some of the professionally oriented other Internet services. In this view, the subject gateway is one component in a network of communicating services, which may be assembled to meet particular business and user needs.

4 GATEWAYS IN A DEVELOPING LANDSCAPE

The subject gateways began operations in 1995. There are some initiatives in USA and UK to develop web based databases called subject gateways or subject based information gateways-which organize access to useful to free-to-air scholarly information relating to broad subject areas e.g. chemistry, engineering, medicine. Such gateways differ from the standard Internet search. The following hubs have been established around faculty -level subjects:

a) Social Science Information Gateway (SOSIG)
b) Organising Medical Networked Information (OMNI)
c) Edinburgh Engineering virtual Library (EEVL)
d) e-lib (electronic library program)
e) Art, Design, Architecture and Media Information Gateways (ADAM))

In the USA, there have been both local and regional initiatives, such a INFOMINE, and Health web, as well as publicly funded national research initiatives such as SCOUT. In the UK, the concept was taken further through the funding provided under Follett for a series of UK based, subject specific subject gateway.(elib,1998).with an elaborate marketing and training infrastructure, they were based quite consciously on the notion of providing service to the entire higher education sector in the UK, and becoming one part of the solution to the problem of managing scholarly information available via the web.

5 PROBLEMS WITH DESIGNING GATEWAY

This article explains many issues in the design of gateway various stages in the process of development. They are (1) Selection and

evaluation of information (2) Currency of information (3) Identification of user needs (4) Copy Right/IPR (5) Monitoring update ness (6) Collection management (7) Information issues

5.1 *Selection and evaluation of information*

In selecting individual materials for designing it is important consider how closely the documents fit in to the purpose. Presuming the documents is relevant to the purpose; several other questions need to be asked to its suitability.

5.2 Currency of Information

Currency of resource is checked by link checking software (e.g. ROADS), database such as OMNI.

5.3 Identification of User Needs

Because of information needs change in time and depends on the particular information seeker, systems should be sufficiently flexible to allow the use to adapt the information seeking process to his own current needs.

5.4 ***Copy Right/IPR***: One of the main concerns for electronic document delivery is the intellectual property right. It applies to the creation, storage and dissemination of digital form and this particular law is protecting authorship of original works. In this regard however, library and information profession feel that copyright law for paper-based environment is no longer applicable to electronic environment.

5.5 ***Monitoring updateness***: In order to support information update ness is very important. Redundant information objects have to be removed, errors have to be repaired, and the growth of collection must be secured.

5.6 Collection Management: Without adequate collection of documents in these areas is quality of data and the reliability of its service. This makes collection management an important part of any gateways.

5.7 Information issues: One of the main issues in this content management and organization information. It should cover important decisions that need to be made when setting up a new gateway.

6 CONCLUSION

In order to provide meaningful subject gateway provision of subject-based gateway is crucial. It is inevitable that gateways will choose different schemes for classification, controlled vocabularies and thesaurus, according to their users requirements. The popularity of establishing gateway services has been proven. They will be taken on a national role, for part of the wider research and learning experience.

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DIGITAL INFORMATION SERVICES FOR RURAL DEVELOPMENT COMMUNITY: DELIVERY AND MANAGEMENT IN A NETWORKED ENVIRONMENT

T Rama Devi*

ABSTRACT

The paper discusses the Digital information services for rural development community in general and Digital Information Services Delivery in NIRD in particular.

1 INTRODUCTION

According to 2001 census 70% of the population in India are living in the rural areas, and over 25% of this population are poor. The Ministry of Rural Development (RD), Government of India is spending more than 10,000 crores per year to reduce the poverty, and improve the quality of life of the rural poor. Pioneering efforts are being made by India since independence in the filed of rural development. Each of the Five Year Plans emphasized poverty alleviation as one of the thrust areas. Accordingly over the years many innovative schemes, programmers were identified, designed and implemented. Some are target oriented and some are area development programmes and yet some others are relating to the weaker sections of population like SC, ST, Women, Tribes, etc. A large machinery of functionaries is involved in the implementation of these programmes, which are constantly reviewed, updated, modified and executed. In order to equip these functionaries with the skills for implementation, and provide necessary knowledge about the programmes a chain of training institutions were set up through out the country. Simultaneously over the years several research bodies, universities, institutions, NGOs mushroomed specializing in different disciplines and took interest in these programmes, to evaluate performances and to appraise the government at various levels about the implementation of the programmes

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2 DIGITAL INFORMATION SERVICES (DIS)

To achieve a greater degree of integration and improved organization of disparate Information resources, to provide the personalized information services and to deliver the information to the faculty desktop through LAN. There are many advantages of Electronic Resources viz. saves a lot of space in the Library, can be updated every minute, Information is always available and not limited by physical location, electronic documents can be shared by many at a time, quick, accurate and easy to locate information, provide access to current information, electronic clipping and reference services can be provided, easy to copy and print the material as and when required

The traditional libraries should be gradually changed and developed as an Electronic Library by collecting, organizing, managing and disseminating the digital information available in various electronic formats. As a result an Instant information services can be provide through Electronic Libraries to the users through Global Networks

2.1 Digital Information Services Delivery in NIRD

Rural Development is an interdisciplinary subject in the field of social sciences. There are no known specialised on line services in this field, except for some international sources like Commonwealth Agricultural Bureau, London, Royal Tropical Institute, Amsterdam and some other private publishers limited to secondary services However, it is found from various user surveys conducted that there are different stakeholders involved in the rural development activities at various levels.

According to Development Information System (DEVSIS) Report of 1975 of IDRC, Canada, information is recognized as a resource for development and that it is very difficult to access this resource. In view of the advancements in Information and Communication Technologies, the task of making the Internet resources accessible, is becoming relatively easy. Using Internet, attempts are being made at NIRD to collect information on rural development, under a project entitled 'Computerized Library and Information Clearinghouse' (CLIC) as a plan scheme. Thus under the CLIC project web technologies are made use of systematically for selection, acquisition, processing and retrieval of information on rural development in keeping with the mission of NIRD. CLIC is accessible to all faculty members of NIRD through LAN and

also available on the web site of NIRD (www.nird.org.in) the uniqueness of CLIC is that it collects information on different aspects of rural development in India and other developing countries at one single point which can be accessed by the rural development community through World Wide Web. Another interesting aspect is, using the facility that information technology provides, links have been established to various web sites in India and abroad that give information on rural development research and training aspects. Thus a virtual library on Rural Development is created using web resources.

The collection of data /information of the nature listed above involve contacts with different rural development institutions on a regular basis, to elicit information on aspects like training programmes, research projects, publications, and the expertise available. The documents including books, journals, newsletters, annual reports, training programme announcements, etc. received in the library have to be continuously scanned for culling out relevant information and developing the databases. **Browsing Internet** for identifying sites relevant to rural development and allied aspects and down loading of information for ready reference forms another important activity in the enrichment of information resource base. Consolidation and repackaging of information in a format suitable to the users is another activity CLIC provides access to several information products under the following categories.

2.2 General Information

(i) **Who is who in Ministry of Rural Development:** A list of addresses, telephone, and fax, e-mail of the personnel of Ministry of Rural Development, Krishi Bhavan, and New Delhi

(ii) **Rural Development Programmes:** A list of rural development programmes of Ministry of Rural Development with their focus, objectives, which could benefit from them, budgetary allocations, etc.

(iii) Rural Development Programmes - State wise: A list of rural development programmes implemented by the respective State Governments with more details on their objectives, budgetary allocations and other attendant factors.

(iv) **Rural Development Statistics-2002-2003:** Rural Development Statistics, brought out by NIRD exclusively for the use of development community.

(v) **Success Stories in Rural Development:** A list of success stories in rural development scanned from journals, news papers and Internet.

(vi) **National and International Institutions:** Links to various research institutions of national and international origin, to know more about their objectives, activities, publications, personnel and projects.

(vii) **Rural Development Web sites:** Links to various web sites of national and international institutions related to Rural Development.

(viii) **List of State Institutes of Rural Development (SIRDs):** A complete list of SIRDs with their contact address, phone, fax, e-mail. Also, a brief outline of their objectives and current focus of the activities is provided.

(ix) **State Secretaries:** A complete list of State Secretaries of Rural Development and/or Panchayat Raj (Local Self-Government), with their contact address, phone, fax, etc.

(x) **Newspaper Clippings:** List of newspaper clippings collected from various newspapers based on specific keywords, on the following topics:

(xi) Poverty
(xii) Rural Development

(xiii) Data Bank

Data downloaded from the Internet on the following key subject areas:

a) Drinking Water
b) Watershed Development
c) Panchayati Raj
d) Rural Roads
e) Rural Housing

(xiv) **Training:** A list of institutions, both national and international, offering training is grouped at one place. Special emphasis is given to training calendars of institutions of rural development.

(xv) **Research:** Information relating to on-going research in rural development in various Indian Institutions, Universities apart from NIRD and SIRDs is given under these headings. It also includes Research Highlights of the projects completed at NIRD.

(xvi) **Publications:** Mainly publications of NIRD, full text of the current issue of NIRD Newsletter, content page of the Journal of Rural Development and latest publications catalogue are given here.

(xvii) **Library Data Base:** Under this heading a variety of databases are grouped starting with access to NIRD library database consisting of 2,00,000 references. The other databases maintained and displayed are as follows:

(xviii) **Rural Development Institutions in India:** This section includes addresses, phone numbers, Fax, telex, E-mail of different rural development institutions of the country.

(xix) **Rural Development Experts in India:** Provides the information profiles of over 300 experts working in RD sector in India from different universities, institutions, government and non-governmental organisations.

(xx) **Non-Governmental Organisations (NGOs):** NGOs and their activities are given including a list of NGOs affiliated to United Nations with Internet links to their web sites.

(xxi) **Funding Agencies:** List of available funding agencies in India.

(xxii) **Universities in India:** List of web sites of various universities of India.

(xxiii) **Ready Reference:** Based on faculty profile of NIRD, documents are downloaded from Internet and kept at one place for reference.

(xxiv) **Journals subscribed to by NIRD Library:** A complete classified list of Journals subscribed to, by the Centre on Rural Documentation.

(xxv) **CORD Alerts and CORD Abstracts:** Selected articles of journals received each week, titles of books and other materials received in the library in a fortnight. Abstracts of important articles/book notes.

(xxvi) **Libraries all over the world:** Links to libraries all over the world and other Public Libraries.

(xxvii) **United Nations Special Programmes:** List of Important Days, Weeks, Years and Decades observed by the United Nations.

2.3 Additional Digital Services by CORD

a) **E-Mail:** E-mails are extensively used for providing various types of Information. E-mails, apart from saving a lot of time has also increased transparency between the library staff and its users, e.g. the delivery status of a particular documents requested by the users ask the references queries etc. E-mails are sent both to the whole group users group and also to individuals whenever any specific information is to be conveyed.

b) **Webs access service to users:** PCs in the library has the capability to access the INTERNET & INTRANET, Library staff in providing web based services to users by giving them required online information such full-text of articles, papers, reports, images etc. and also teaching them procedure up to take as print of any reference from Internet in format such .doc, .PDF, .ps, .pig, etc.

c) **Online Public Access (OPAC):** It is the most sought. The OPAC provides search for terms of your choice through out the database or in specific fields of library holdings such as books, reports, and conference proceedings, Videocassettes. CD-ROMs and journals etc along with search facilities

d) **Web based Online Public Access Catalogue (Web OPAC):** Web OPAC is an information retrieval module operating in the web environment, which allows searching

for terms of one's choice through out the database of library holdings. This facility can be accessed on Intranet by the site address: http:// 172.30.102.251 in the browser. Web OPAC search perform access through title/keywords by author, accession number, call number, publishers, Keyword, ISBN etc. One can get the loan status of his/her account like issued books and books, which are over due journal articles. The web OPAC facility is also going to be made accessible on Internet by using the site address of <www.nird.org.in >.

e) **Training Material:** CORD is assisting the faculty by providing digital information on monthly basis, collecting from library database, Internet, and CD searches on various training programmes. This service was well appreciated by the faculty. Besides this CORD Alerts and CORD Abstracting Services are also provided in the Digital Format

f) **Audieo-Visual Materials:** A number of 235 CDs like AgEcon CD, CDs received with books and Video Cassettes converted into CDs. With a view to provide audio-visual support to the training activities of the Institute, CORD has established a video library. A growing collection of video cassettes covering subjects ranging from environmental issues to safe drinking water, sanitation, science and technology, gender and other development related issues is maintained in the video library. At present 130 Video Cassettes are available

g) **Internet Facility:** In order to provide access to electronic information available globally on Internet, an Internet facility has been provided to users in the library (CORD). The facility is available from 9AM to 10PM.

h) **Training:** Besides Internet facility CORD is providing training to users, library professionals as well as faculty

i) **Digital Collection initiatives**

j) Initiatives are taken for providing digital information services to the users through digitization of NIRD publications like Study reports, Rural Development Statistics, course material of various training programmes, proceedings of workshops and seminars etc. It is planned

to digitize all-important documents available in the libraries and to give access through Internet using Hyperlink on Library at NIRD web site <www.nird.org.in>. Started digitization of NIRD publications under one Million Project of Carnegie Mellon University (Cooperation with City Central Library, Hyderabad).

k) **Networking**

l) NIRD has LAN network with nodes in all the faculties. CORD is also connected on LAN with 13 nodes. These nodes are used for carrying out library operations like acquisition of books, technical processing, serials management, circulation and other housekeeping operations. CORD databases are accessible from all the nodes on LAN.

3 CONCLUSION

Traditional library offers information keeping document at the centre. In the age of Information, there is a need to keep information as the central object. Though the search patterns are similar in traditional and virtual libraries, the virtual libraries use the Internet as the delivery system for services. However, information on the Internet needs to be well structured. When CLIC, as a Digital Resource base on rural development, is placed on Internet it has no location restrictions as it can be seen anywhere in the world and accessible 24 hours a day, also it is continuously updated and current information is added almost every day. Thus, through CLIC information of Indian rural development in its various facets is put on to Internet for others to log on to and derive benefit of finding information at a 'one stop location'. Information Technology enabled value-added information resources and services are becoming the de-facto standard the world over

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DIGITAL LIBRARIES AND PRESERVATION OF DIGITAL MATERIALS

Amrit Pal Kaur*
Sarita Rani**

ABSTRACT

Digital Libraries are libraries, in which information is gathered in digital form. It comprises of interactive videocassettes, interactive CD-ROMs, electronic journals & magazines, hypertexts and graphics. Digital libraries, also called electronic libraries, integrate the requirements pertaining to three segments namely formal, informal and professional and this break up has shown physical barriers between the resources. A digital library is also known as a distributed text based computerized information system and services. In this system, computer or electronic equipments are used for acquiring, storing, organizing, searching, distributing and displaying digital materials for geographically distributed or local areas.

The article describes the emergence of digital libraries. It discusses the problems and issues related to digital libraries such as information accuracy, security, copyright and intellectual property right, technological obsolescence, life of digital material and pricing. It takes up an important issue relating to digital libraries i.e. preservation of digital material. It explores various strategies and methodologies for preserving digital materials and also focuses on the pressing need for libraries to develop strategies and practical action plans to maintain the safety and accessibility of the world's historical and cultural heritage.

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DIGITAL LIBRARIES IN DEVELOPING COUNTRIES: SOME ISSUES

Keshava*
V D Joshi**

ABSTRACT

The concept of digital library is the landmark in the curve of library profession, which dominates the conventional library collections and manual services. Digital Library, a global virtual library, is a library of thousands of networked electronic libraries in which large number of geographically distributed users can access the contents of large diverse repositories of electronic objects. The electronic objects may be networked texts, images, maps, sounds, and videos, catalogues of gadgets and scientific, business and government data and knowledgebase. The library must be a network based distributed system with local servers responsible for maintaining individual collections of digital documents. At present, awareness towards the digital library in all the professional institutes in India is still in embryonic form. Many recognized institutes across the country were conducting number of conferences and seminars but as far as global scenario is concerned, we are much lagging behind.

The paper gives an overview of digital library. Highlights the use of digital libraries in developing countries. Discuss the issues of digital libraries in developing countries with special reference to India.

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DIGITAL LIBRARY DEVELOPMENT: A ROAD MAP

A N Bandi*

ABSTRACT

Information and Communication Technology (ICT) has made a dramatic impact in the process of information management. This impact is very intensive in the field of information system and services, which influenced the working conditions of the information professionals and users. The developments provided ample new tools for improving access to need based information and sharing of knowledge. The consortia mode of access among the participants with increased information base at reduced cost brought the opportunity for the library and information practitioners to over come from many barriers.

The paper describes the impact of ICT on library and information profession. Articulate the steps involved in digital library collection development and also gives overview of the digital library collection, principles, its dimensions and features of digitization. Highlights infrastructure requirements for the digitisation process and steps involved in it in detail.

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1 INTRODUCTION

Information and Communication Technology (ICT) has made a dramatic impact in the process of information management. This impact is very intensive in the field of information system and services, which influenced the working conditions of the information professionals and users. The developments provided ample new tools for improving access to need based information and sharing of knowledge. The consortia mode of access among the participants with increased information base at reduced cost brought the opportunity for the library and information practitioners to over come from many barriers.

Digital resources are the set of electronic sources enabled by technical capabilities to create, search and use enormous amount of information. They are the excellent complementary addition to the maximum use of information. Digital resources manipulate digital data in any medium like text, images, sounds, and static or dynamic images. A digital collection is nothing but digital objects accessible via information system and facilitated by interfaces designed and developed to provide convenient access to materials. The digital collection thus can be recognised as follows;

(i) It is a useful complementary service of ISR;
(ii) It is the best architecture;
(iii) It acts as a useful information resources;
(iv) It has a set of technologies to create such information resources.

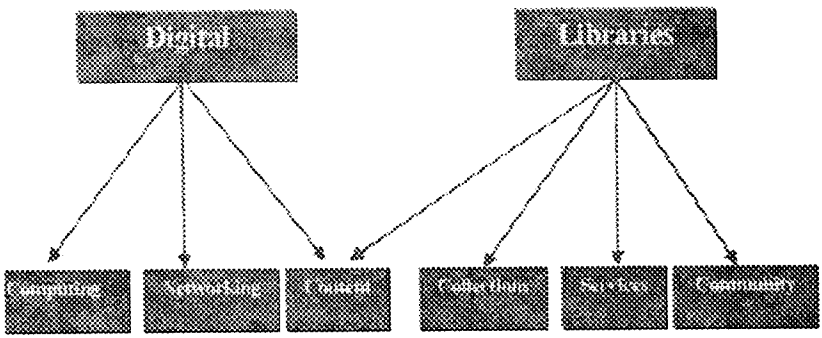
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2 DIMENSIONS OF DIGITAL COLLECTION

To define Digital collection four dimensions are identified;

1. The community;
2. Technology;
3. Services; and
4. Content.



Digital collections: an overview

The impact of information technology on information services on Library and Information profession is visible. The existing information handling practices need to be re-vamped in the light of fast changing IT scenario. The innovations in communication and information technologies to be adopted in day-to-day activities of the Libraries. The developments certainly make impact on internal environment. The Library Management should create necessary infrastructure by modifying the existing setup in accordance with the developments that are taking place from time to time.

The Internet and World Wide Web have made revolutionary changes in information accessibility. The electronic information resources can be accessed seamlessly without any geographical barrier. The key collections of the Libraries can be identified and digitised for balanced access across the country. The in-house publications of the Institutes/Organisations may invariably digitised and hooked to the website. The valuable resources collections can be digitised liberally as while taking in to account of Intellectual Property Right (IPR). The purposes of considering digitisation are identified as;

a) To expedite the systematic development of procedures to collect, store, organise information resources in digital format;

b) To promote efficient delivery of information economically across the country;

c) To encourage co-operative efforts to share the information resources through consortia;

d) To strengthen the communication and collaboration among the Libraries;

e) To preserve and conserve the national heritage and culture through digitisation; and

f) To be a role model in generation and dissemination of information in thrust areas.

3 SPECIAL FEATURES OF DIGITIZATION:

The various features identified for digitisation of information resources are;

a) Seamless access to information resources available in all the participating libraries;

b) Thrust on access to primary information ;

c) Support multimedia content for accessibility of information across the platforms;

d) Provide user-friendly interface to access the information;

e) Provide hypertext linkages to information databases;

f) Provide client-server architecture;

g) Support advanced search and retrieval of information; and

h) Linkage with other national and international digital library system.

To reach the optimum level in the development of digital collection and its effective use, the following technical points to be taken in to consideration;

a) High bandwidth computer linkages supporting multimedia document transfer among the participating libraries;

b) Open communication protocols (client-server) for information retrievals;

c) Information access tools like; browsers, display and search engines;

d) Metadata describing the data and having facility to provide links to other related databases;

e) Electronic publishing toois;

f) Data Compression;

g) Digital storage devices;

h) Scanning and conversion technology;

i) Multimedia for integration technologies;
j) Advanced information retrieval tools like indexing routing and filtering of information;
k) Inter-operability over the libraries;
l) Privacy and security; and
m) Intellectual Property Rights (IPR).

Emergence of user friendly and converging technologies, access to electronic media, advanced telecommunication system, audio-visual technology and multimedia have given new opportunities for handling the information collection, organisation and dissemination of vast amount of resources stored in the various libraries. The digitisation programme, it is hoped, will certainly enable to provide the best of the best facility to the user community to find their right information in a right format at the right time to peruse excellence in their activities.

4 GOOD DIGITAL COLLECTION: SOME PRINCIPLES

Digital collection calls for a set of established policies and procedures;

a) A well defined policy based on explicit selection criteria are to be in place before efforts to build a digital collection.
b) Collection description is important from the point of view of resource discovery and understanding the characteristics of information collections such as scope, format, restrictions on access, ownership etc.

5 INFRASTRUCTURE PROPOSED FOR DIGITISATION PROCESS

On the basis of the existing digital library initiatives, the following infrastructure proposed,

1. Hardware
   - High end servers – 2
   - CD/DVD servers – 1
   - CD/DVD writer – 1;
2. Compatible operating system
3. Software
4. Scanners
   - A3 size - 1
   - A4 size - 1
   - Digital Camera – 1;

5. OCR software;
6. Outsourcing of digital resources;
7. Fibre optic connectivity;
8. Manpower; and
9. Training to staff and users.

6 STEPS INVOLVED IN DIGITAL RESOURCES CREATION

Some of the following steps are very important in building the Digital Library System;

- Library should create the bibliographic database of print and non-print materials and such database to be made available via LAN and WAN;
- Acquisition of need based digital resources in the form of CD-ROM, optical disk and multimedia version;
- High bandwidth internet connectivity;
- Subscription e-journals;
- Facility to access commercial databases via online in the related areas; and
- Creation of local digital content available within the geographical area.

7 CONCLUSION

The future collection development of the library would be the creation of Digital resources keeping in mind the development taking place in communication and information technologies on the one side and the ever increasing information resources and the demand on the other side. The Librarians and others who involved in information based activities need to concentrate on access, search, process, organise and disseminate the filtered information on demand and in anticipation.

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DIGITAL LIBRARY: LINK TO E- LEARNING

Mamta Malik*
Anil Kumar Jain*

ABSTRACT

Today 's library includes sophisticated tools that make it easy to find the best information resources, delivering them to one 's desktop or mobile computing device at the push of a button. While there are still many challenges to realizing the potential of digital information, digital library technologies and practices have developed enough so they are within reach of every type and size of educational institution. With the advent of the Internet, individuals 'expectations for access to information have increased dramatically. It is no longer considered practical or acceptable to travel to a specific location during certain hours to locate needed information. Library patrons are not satisfied to locate an item of interest that is housed at yet another physical location, request the item, and then wait days or weeks for the item to arrive at the building where it was requested. Patrons increasingly expect instant access to all the information resources they require, from any location, at any time, and from any device. This is the objective that the digital library is fulfilling. It is clear that digital library technology is becoming an essential enabler of library services.

This paper presents the key concepts of what the digital library can be, its key components, link to e- Learning and the campus enterprise and some of the future directions. It is clear that digital library technology is becoming an essential enabler of library services.

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DIGITIZATION OF INTERNAL TECHNICAL REPORTS OF CENTRE FOR ADVANCED TECHNOLOGY: AN EXPERIENCE

P Rajendiran*

ABSTRACT

The Centre for Advanced Technology (CAT), Indore a premier R&D institute engaged in non-nuclear front line research areas of Lasers, Particle Accelerators & related technologies. It produces number of internal technical reports every year; these are outcome of research findings and account of the work done on a project with in the organization. The technical reports collection is about 250. The reports brought out until the year 2003 were converted into digital format (scanned). This paper discusses the technical reports digitization activities of Centre for Advanced Technology Library. The paper describes the Hardware and software used for digitizing the materials in the Library. Discuss in detail the Digitization methods; process: scanning, PDF creation, Optical Character Recognition, storage, cataloguing; user access, and preservation techniques.

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DSPACE: A DIGITAL LIBRARY SOFTWARE FOR DESIGNING AN INSTITUTIONAL REPOSITORY

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Biswajit Das[**]
Subhendu Kar[***]
Swarnali Chatterjee[****]

ABSTRACT

This paper discusses the creation of an Institutional Repository (IR) through DSpace. It aims at individuals who have some familiarity with digital library services and technology and who require more detail than other collateral provides. The paper is intended to be useful to provide source material for other collateral (e.g. user's manuals, functional overviews, etc.). The paper does not assume a naïve reader. However, since the intended audience spans multiple disciplines (library science, computer science, operations, product/service management) we will attempt to define all terms inline before initial use.

1 INSTITUTIONAL REPOSITORY

An institutional repository consists of formally organized and managed collections of digital content generated by faculty, staff and students at an institution. The content of these repositories can be available for integration with on-campus library and course management systems, and can also be made available to colleagues and students at other institutions, as well as to the general public.

When we use the term "repositories" today, we can be speaking about one of many different technologies that support the storage and distribution of digital content:

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i) Collection-based digital repositories which are managed by library professionals;
ii) Course management system and associated file stores;
iii) Collection of research data and reports managed by academic departments;
iv) Institutional file storage system;
v) Digital asset management workflow systems; and
vi) Web content management systems used by institutions or departments [1]to store and stage web content.

While many of these components can play roles in capturing and managing digital content, an institutional repository is a more specific concept – a centrally managed collection of institutionally generated digital objects designed to be maintained in perpetuity. An institutional repository will be capable of indexing and serving a wide range of static and moving images, and will be seamlessly visible from course management system, integrated library systems, administrative workflow systems, and via public portals. Institutional repositories can be viewed "as a natural extension of academic institutions' responsibility as generators of primary research seeking to preserve and leverage their constituents' intellectual assets; and as one potentially major component in the evolving structure of scholarly communication."

2 DSPACE

DSpace means different things to different people and constituencies. Sometimes it refers to technology for DSpace is an application. DSpace followed the librarian's inclination to create a system that would be as easy as possible to implement and use, rather than push strictly in the direction of digital library research from which a more flexible system might have emerged. DSpace, therefore, was designed as an open source application that institutions and organizations could run with relatively few resources. The intention to support interoperability (i.e. with DSpace implementers at other institutions) led to the adoption of the Open Archives Initiative Protocol for Metadata Harvesting (OAIPMH); the OAI Registry includes DSpace, making its Dublin-Core-formatted metadata available to compatible harvesting code. In addition, DSpace chose to implement CNRI handles as the persistent identifier associated with each item to insure that the system will be able to locate and retrieve documents in the distant

future. DSpace was also designed with a batch load submission feature to ease the loading of exiting collection and cut costs.

DSpace the technology, then, is the software—the open source computer application that drives and manages submission, storage, and retrieval processes. But DSpace has non-technological aspects of importance, which this narrative will highlight for the benefit of those who need no longer develop the application.

The DSpace system provides a way to manage these research materials and publications in a professionally maintained repository to give them greater visibility and accessibility over time.

DSpace is designed to make participation by depositors easy. The system's information model is built around the idea of organizational "Communities"—natural sub-units of an institution that have distinctive information management needs. In the case of MIT (a large research university) "Communities" are defined to be the schools, departments, labs, and centers of the Institute. Each Community can adapt the system to meet its particular needs and manage the submission process itself. Fig. 1 presents DSpace information model.

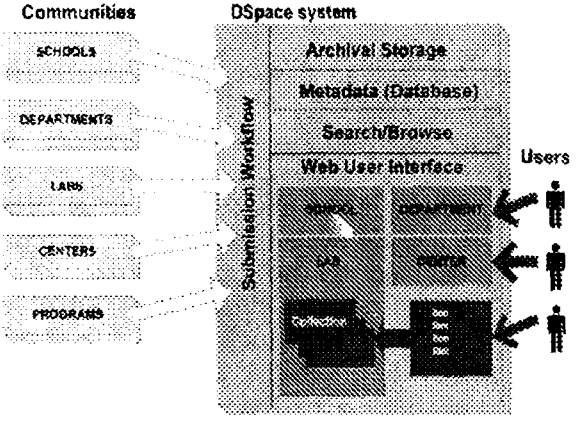


Fig. 1 DSpace Information Model

2.1 Metadata : DSpace uses a qualified Dublin Core metadata standard for describing items intellectually (specifically, the Libraries Working Group Application Profile). Only three fields are required: title, language, and submission date, all other fields are

optional. There are additional fields for document abstracts, keywords, technical metadata and rights metadata, among others. This metadata is displayed in the item record in DSpace, and is indexed for browsing and searching the system (within a collection, across collections, or across Communities).

2.2 User Interface: DSpace's current user interface is web-based. There are several interfaces: one for submitters and others involved in the submission process, one for end-users looking for information, and one for system administrators.

The end-user or public interface supports search and retrieval of items by browsing or searching the metadata (all fields for now, and specific fields in the near future). Once an item is located in the system, retrieval is accomplished by clicking a link that causes the archived material to be downloaded to the user's web browser. "Web-native" formats (those which will display directly in a web browser or with a plug-in) can be viewed immediately; others must be saved to the user's local computer and viewed with a separate program that can interpret the.

2.3 Workflow: DSpace is the first open source digital repository system to tackle the complex problem of how to accommodate the differing submission workflows needed for a multidisciplinary system. In other words, different DSpace Communities, representing different schools, departments, research labs and centers, have very different ideas of how material should be submitted to DSpace, by whom, and with what restrictions. Who is allowed to deposit items? What type of items will they deposit? Who else needs to review, enhance, or approve the submission? To what collections can they deposit material? Who can see the items once deposited? All of these issues are addressed by the Community representatives, working together with the Libraries' DSpace user support staff, and are then modeled in a workflow for each collection to enforce their decisions. The system models "e-people" who have "roles" in the workflow of a particular Community in the context of a given collection. Individuals from the Community are registered with DSpace, then assigned to appropriate roles; i.e. a department may choose to have two collections: one for working papers and another for datasets. They may then decide that any member of the faculty can deposit items to either collection directly, and that any member of the general public can have access to these collections. In this example the workflow is very simple, and the only "role" is that of submitter.

In a more complex example, the same department may have a working paper collection that requires tight editorial control by the head of the department. In this case, they may choose to again designate all faculties as "submitters", but also designate a small group of people as "reviewers", an administrative staff person as a "metadata editor", and the head of the department as the final "coordinator". An item deposited by a faculty member would then go through a process of review, cleanup and approval before finally being deposited to the relevant DSpace collection. Each person with a role to play in this process is notified of the new submission, and goes to a personal workspace in the system to perfcrm their assigned task. Items that do not make it through the process are not archived in the system.

2.4 Technology platform: DSpace was developed to be open source, and in such a way that institutions and organizations with minimal resources could run it. The system is designed to run on the UNIX like platform, and comprises other open source middleware and tools, and programs written by the DSpace team. All original code is in the Java programming language. Other pieces of the technology stack include a relational database management system (PostgreSQL), a Web server and Java servlet engine (Apache and Tomcat, both from the Apache Foundation), Jena (an RDF toolkit from HP Labs), OAICat from OCLC, and several other useful libraries. All leveraged components and libraries are also open source software. The system is available on SourceForge, linked from both the DSpace informational web site and the HP Labs site.

2.5 System Architecture: The DSpace architecture is a straightforward three-layer architecture, including storage, business, and application layers, each with a documented API to allow for future customization and enhancement. The storage layer is implemented using the file system, as managed by PostgreSQL database tables. The business layer is where the DSpace-specific functionality resides, including the workflow, content management, administration, and search and browse modules. Each module has an API to allow DSpace adopters to replace or enhance that function as desired. Finally, the application layer covers the interfaces to the system: the web UI and batch loader, in particular, but also the OAI support and Handle server for resolving persistent identifiers to DSpace items. This is the layer that will get much of the attention in future releases, as we add web services for new features (e.g., to support interoperation with other systems) and define Federation

services across the range of institutions adopting DSpace. The system architecture of DSpace is shown in Fig.2.

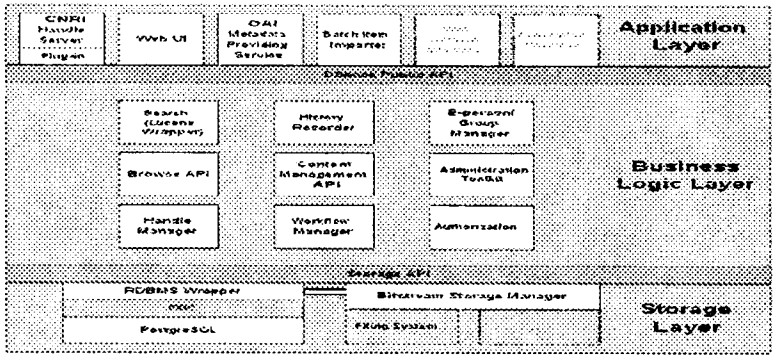


Fig. 2 DSpace Technical Architecture

2.6 Open Archives Initiative (OAI): To further its goal of supporting interoperability with other DSpace adopters, and with other digital repositories, preprint, and e-print servers, the system has implemented the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH). DSpace used the OCLC OAICat to accomplish this, and is currently exposing Dublin Core metadata for every item in the system. For material that is restricted to local access, the item metadata is exposed to OAI harvesters but the system will enforce the restriction when a user requests the associated bitstream(s). DSpace at MIT has recently been added to the OAI registry, and as the system is deployed at other institutions, we intend to investigate what added value services might be built on top of this promising piece of infrastructure to work across the Federation. For example, we may examine the possibility of defining and building preprint and e-print collections for a particular academic discipline with individual items distributed among many institutionally-based multidisciplinary repositories, all OAI compliant.

2.7 Persistent Identifiers (Handles): One goal of persistent digital repositories is that it is possible to find and retrieve deposited items far into the future. In particular, it is considered crucial that citations to archived material, whether found in printed articles or online, remain valid for long periods.

Handle resolution can be done using a special client, or handles can be packaged in the form of URLs and a proxy server used to resolve these into the handle form, which is, in turn, resolved to the local system location for the item. This second approach is the

one we have taken in DSpace. The main alternative to using handles is to use persistent URLs with HTTP redirection to allow items to move around over time. The long-term viability of these alternatives is not yet sufficiently understood.

3 WORKING OF DSPACE

DSpace is offered as a web-accessible service. Users access the service via a web browser. DSpace supports virtually any browser for dissemination. To access submit and manage/administer functionality, web browsers must support web forms and file upload. A DSpace site is a specific installation of the Dspace software, upon which services are offered that are backed by the commitment of a host institution. A Dspace Host Institution is that institution to whom use rights for submitted material are granted, and which stands behind the commitments that are made during the course of offering services atop the Dspace software platform. In the first instance of the Dspace Site at Department of Library and Information Science, Jadavpur University, the host institution is DLISc, Jadavpur University. For example, submitters offer distribution rights for submitted content to the host institution (DLISc, Jadavpur University). The host institution (DLISc, Jadavpur University) makes some commitment regarding storage and preservation of the submitted materials, and that it will use such materials in accordance with the rights granted.

3.1 *User (E- Persons)*

A Dspace User is an individual who uses the Dspace system, by visiting a Dspace site with their web browser. Dspace users can be at any given time either unknown, or credentialed to the system to some degree, for example via username/password or IP-address-based network presence. Dspace keeps some basic information for *registered users* (email address, name, credential information), so that they can take advantage of all of the systems functionality (For example: Submission, My Dspace).

3.2 *Group of Users*

DSpace administrators can organize DSpace users into groups, which may be used to define participants in a role within a collection's submission process (e.g. approver). Policy statements can also refer to groups of users (e.g. allow users in group "thesis-administrators" to edit the collection metadata for the thesis collection). While it is true that there may be some organizational or sociopolitical group of people that correspond to an overall

social "community", DSpace functionality is concerned with defined groups for specific roles within the community; e.g. who can edit the community's home page? Who can add collections to the community? Who can submit items to a collection's submission process?

4 COMMUNITIES, COLLECTION AND ITEM

A DSpace Community is a convenient entry point or "portal" into the corpus of material in the repository. A Community consists of a configurable home page for the community, a set of collections referred to by the community, and a group of users with management and administrative responsibility for the community. Because communities must be administered, DSpace communities typically correspond – at least initially – to an organizational entity, for example, a school, department, laboratory, or research center is shown in Fig.1.

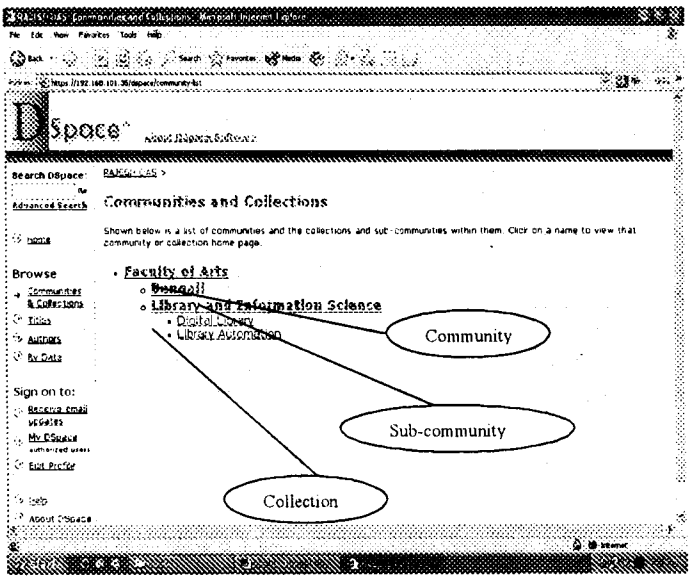


Fig. 1 DSpace Communities and Collections

A DSpace Collection groups together a set of DSpace items that are related in some way. A DSpace Collection consists of a configurable home page for the collection, a set of items referred to by the collection, a configurable submission process for content entry into the collection, and a group of users with management and administrative responsibility for the collection. Users who submit items to DSpace can choose a collection to submit to. Further, DSpace administrators can re-organize items into another

collection or even multiple collections after their initial submission. Collections typically contain items that are similar in some dimension (e.g. source, purpose, existing series or audience, subject matter, research topic). Administrators can also use collections to organize a submission process for consistency of submitted content (e.g. with respect to scope of content, metadata requirements, required bit stream formats, etc.).

A DSpace Item is a logical grouping of a useful set of content and metadata that are related in some way. Examples of DSpace items include: a working paper, a conference presentation, a monograph (book), an annotated series of images, a video clip, materials for a course lecture, a research paper with auxiliary material (e.g. dataset, extended bibliography, rich media images).

5 BROWSE

DSpace users may browse the contents of DSpace in the following ways:

5.1 Browse Communities and Collection: DSpace administrators organize DSpace items into collections, and include collections in communities. Users can browse the structure of communities and collections, in an outline view. Each outline entry includes text describing the contents and/or purpose of the corresponding community or collection. Users can select an entry from the outline view to access the home page of the selected community or collection, from which further bounded browse or search can be performed. Fig.2 presents the Browsing window.

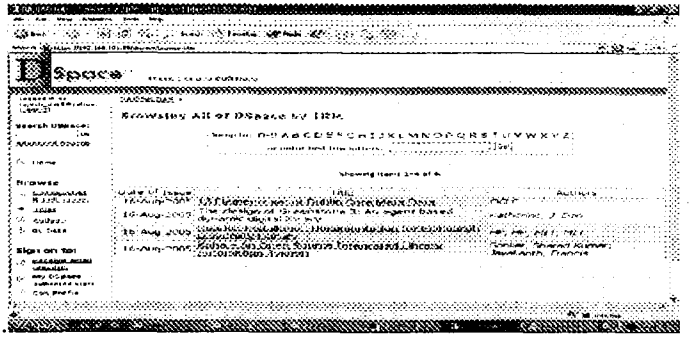


Fig. 2 browsing window of DSpace

6 SEARCH

DSpace offers users the capability to search DSpace for items of interest. DSpace offers the following search features through its

web-based user interface:

(i) Search all of DSpace

(ii) Bounded search, within all of a specified community's collections.

(iii) Bounded search, within a specified collection

(iv) Simple search: *Searches fields: author, title, keywords*

(v) Case insensitive search: *All searches are case insensitive.*

(vi) Truncation, Constraints

a) Input: ***program****

Output/Result: ***program, programme, programming***

b) Input:***?i?er***

Output/Result: ***diver, wiper***

c) Input:***+gone +wind***

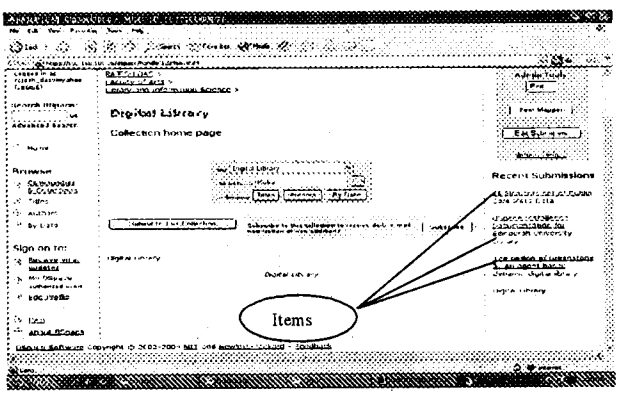
Output/Result: ***"gone with the wind"***(but not "here today, gone tomorrow"or "the cold north wind")

(vii) Word stemming

(viii) *searches for "processed" match any of [process, processing, processor]*

(ix) Stop words

(x) *common words (e.g. "a", "an", "the") are omitted from the search*



These query features are available for DSpace baseline metadata. Other metadata submitted with the item (i.e. in bit streams within the item) is currently neither indexed nor searchable by DSpace.

Search Results

Once the user specifies a search, DSpace performs the search and produces a result set. DSpace displays the result set, including a short description for each item in the results. From the short item description displayed in the search results, the user may select a desired item to view its *Item*.

7 CONCLUSION

We are likely to see the concept of institutional repositories develop in both convergent and divergent ways over the next few years. Not every institution will develop a formally managed institutional repository along the lines of DSpace. But every institution that is utilizing course management systems, library catalogue systems, and student portfolio systems will see increased "repository-like" functionality in their products. The open source movement, coupled with greater network collaboration among researchers, should give rise to discipline-specific federated repositories hosted by institutions, research projects or professional associations.

Institutional repositories are a visible manifestation of the emerging importance of knowledge management within higher education. Paradoxically, "scholarly respect for knowledge and a desire to ensure academic freedom make most institutions reluctant to manage knowledge of any sort". The long-term impact of institutional repositories is likely to change many of the basic assumptions about how intellectual output is managed by individuals, their colleagues and the academy, and how research itself is conducted.

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ELECTRONIC JOURNALS: IMPLICATIONS ON TRADITIONAL LIBRARY PROCESS AND SERVICES

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Nadeem Ulla Khan***

ABSTRACT

Journals are sought for various reasons including research, current awareness and continuing education, teaching and external communication. Print journals have always occupied and played an important role in information creation and dissemination but in recent times there has been increasing demand by the information society for easier, cost-effective and reliable mechanisms of information management. Advances in information technology, has resulted in the development of modern means of information management. E-journals are one such form of information management, which employs the technological thrust. E-journals are replacing traditional print journals, which form a predominant source of information. Individual libraries as well as consortia are facing issues to make these e-journals accessible to users. This paper outlines some of implications in regard to the e-journals and concludes with a short description about the initiatives being made regarding to the subscription of e-journals in Gandhi Smriti Library of Lal Bahadur Shastri National Academy of Administration, Mussoorie.

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ELECTRONIC MAIL OPTIMIZATION IN ELECTRONIC LIBRARIES

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Sucharita Pradhan**

ABSTRACT

Electronic mail combines the speed of electronic communication with features similar to the postal mail service the major difference between the postal mail and e-mail is that a computer can transmit a message across computer network environment electronic form of library almost instantly. New technologies like wireless, broadband, data ware housing, data mining, are providing digital libraries with new opportunities and capacities to reach and serve customers. As electronic environment libraries are shaped by these technologies and possibilities, libraries are using the information technology (IT) and electronic networks to improve the efficiency and efficacy of the transaction processes, to improve library condition. The paper discusses an electronic mail service and its provision over electronic network i.e. Internet. It also includes all the alternative channels in electronic environment library.

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FUTURE OF LIBRARIES AND ROLE OF LIBRARIANS: A PERSPECTIVE

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ABSTRACT

In the present era the role of the library has entirely changed, libraries play a vital role in the information world by providing access to world-class information resources and services and can help to stimulate research by promoting collection and services widely.

In future no doubt, the environment will be changed dramatically, but traditional library skills and roles will still be needed. The basic role of librarian i.e. evaluating and providing the information, and knowledge resources will not change. People assume that with the emerging website culture, every one can do searches but the reality is that it has become all the more difficult. One, because the developments are fast as well as multi-dimensional and users keep very busy secondly, most of them have no idea how search engines work and the quality or integrity of the information they access. In future the shape of the library will be changed totally. It may be turned into a cyber library where the library services will be managed by electronic gadgets, robots and machine effectively. So library professionals need to be fully techno-savvy. Technology should not become the master rather it should be treated as a servant.

The paper presents the changing role of libraries and discusses the new roles of librarians to cope up the challenges posed by the information and communication technology.

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FUTURE OF LIBRARY CONSORTIA

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ABSTRACT

A library consortium is a formal association of libraries, not under the same institutional control, but basically restricted to a geographical area, types of materials or subject interests which are established to develop and implement resource sharing among members. The paper discusses the need and successful library consortia and suggests future library consortium to develop a network information environment.

1 INTRODUCTION

A library consortium may take the form of a co-operative arrangement between several libraries, for example, for loaning books or an electronic network inter-connecting different libraries, or a number of these together. This has become necessary these days mainly because of the increase in volume of information being produced in print and electronic formats. Increasingly, a consortium building is placing emphasis on computerized multi library networks involving shared databases, telecommunication links and common applications.

No library/information center has all the books/documents/ information, which may be in demand by its clientele. Neither it is possible for a library/information center to meet such demands by online access. It is also not possible to meet the information hunger of all the readers from the stock of information of a single library. To cope up this problem library co-operation started long ago and now a new concept consortium has come into existence with wide coverage

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2 LIBRARY CONSORTIUM

Consortium is probably the newest term to enter our vocabulary, which actually means to associate for a specific purpose. Library consortium is a collective activity of any group of libraries towards a common goal. The term is now used perhaps too broadly encompasses each and every routine as well as special activities of library. Library consortium has been successfully implemented in the libraries of developed countries like USA, UK, Germany, and France etc but in India, consortium concept is still in the initial stages.

3 NEED FOR LIBRARY CONSORTIUM

The following are the causes behind library consortium:

i. Population Explosion
ii. Knowledge explosion
iii. Document explosion
iv. Impossibility of self-sufficiency
v. Limitations in finance/inflation
vi. Language barrier

The above causes are for library consortia. Among them, the following two causes are very important for future of library consortia.

(a) Population Explosion: Before the scientific era, there was a slow growth population, as the rate of morality was very high. Due to development of S & T, Innovations led of population. The vast increase in the population and its spreading was accompanied by an equally remarkable influx of people from rural to urban areas. Rapidly the people understand the need of education where library acts as a vital role to serve the community.

(b) Knowledge Explosion: Today, the 21st century called as "Knowledge Explosion" due to the enormous production of information. Knowledge generates at many points in the World. Research Institutes, Universities, Industrial and commercial Organizations and other academic Institutions are responsible for generation of knowledge where scholars are working day and night to develop new knowledge on various disciplines.

4 SUCCESSFUL CONSORTIA

The following are the features of successful library consortium:

(i) Commitment of participating agencies
(ii) Providing valued products and services
(iii) Providing products to meet particular needs
(iv) Stability
(v) Continuing, regular funding
(vi) Flexible in meeting changing needs
(vii) Competitive pricing
(viii) Lack of visible cost-saving or other visible financial benefits
(ix) Problems with intellectual and physical assess

5 DEVELOPMENT OF CONSORTIA

The development of consortia is the outcome of the desire for Resource Sharing, and consortia seem to be getting bigger. The global development of OCLC is a prime example. OCLC is the leading global library co-operative, helping libraries serve people by providing economical access to knowledge through innovation and collaboration. Others like Virginia's VIVA, Ohio's OHIOLINK, Georgia's Galileo etc are newer consortia on the scene having one common goal i.e. of pooling their collective financial resources to increase greater economic control over their marketplaces.

6 FUTURE OF CONSORTIA

Now with the commencing of electronic era, inter library loan is no longer the only means of resource sharing. Since our information expectations like the preponderance of bibliographic databases, web pages & document delivery services have increased in the age of network computers. Joining a consortium, integrating intellectual access, providing for both physical and electronic development process are all the distinct steps moving towards the 21st century libraries. Developments in modern Resource Sharing, whether they are document delivery services or computing services, do not alter the ethics of Librarianship. Keeping in view the old traditions and applying them to the new environment will make institutions grow and provide useful service. Just like corporations, that are forming alliances among themselves to create bigger and better organizations, libraries also must continue to strive to strengthen the consortia formed between

themselves and other institutions for the purpose of resource sharing.

7 LIMITATIONS OF LIBRARY CONSORTIA

There are always pros and cons for any activity. Impediments to consortia development sometimes include:

(i) Exorbitant Membership Fees
(ii) Slow Bureaucracy

There are number of licensing issues those consortia members should be aware of. They are:

(i) Number of simultaneous users.
(ii) Number of participants in the consortium
(iii) Security Methods
(iv) Pricing Formulas
(v) Negotiation for Consortia

8 SUGGESTIONS

For the development of the library consortia in the present information era, the libraries should come together and share their resources in providing the library services to their clienteles. So, the library and information centres should be developed in their collections and services to achieve the Ranganadhan's second Law "every reader his or her book".

9 CONCLUSION

Technological innovation in academic libraries has changed the ways in which library users find and use information today. Libraries have an ongoing responsibility for collection development, preservation, and retrieval of information from paper-based resources and now it has become more complex with the introduction of digital resources with the intervention of communication technology. Access to library services from outside the library buildings is increasing day by day. Many publishers like Elsevier Science Direct, Mathematical Reviews, Kluwer On-line journal, etc are offering a very attractive consortium price for electronic and print journals. Developed countries have already formed consortium and availing such facilities offered by the publishers. But in India, a consortium is in the initial stages. Though it is late, still there is time to re-initiate consortium movement specially by the automated and semi-developed libraries availing some form of services from IITs, IIMs,

IITs etc libraries to acquire maximum resource and service involving minimum time, money, space etc and serve the users community at an optimum level.

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FUTURISTIC VIEW OF COLLEGE LIBRARIES

O P Hooda*
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ABSTRACT

The 21st century might, therefore, witness the convergence of telecommunications, information technology and wireless communication. No one can claim any right on information technology as all fields are associated with it and using it for their routines and regular jobs. College libraries are no exception to it. The paper introduces information technology, information technology developments, and areas of application in college libraries. Describes the use of information technology, and vision of information technology in college libraries in new millennium.

1 INTRODUCTION

Technology is changing rapidly. No one can control the rapid change of technology and predict what happen next. The astonishing growth of information technology is perfect example of the abovementioned statement. The future of information technology is very promising. Development in telecommunications increases the type of information that can be transmitted. The development in storage media can store a huge quantity of information in lesser space. The next innovation of wireless communication will play a dominant role in the information technology in the 21st century. Besides voice, a new range of services such as multimedia, high-speed data etc. are being offered for delivery over wireless networks.

Information is required for education purposes to fulfill students and teachers requirements and to support teaching programmes of the parent bodies. The integration of computers, storage media, telecommunications and wireless communications have revolutionized the way of functioning in college libraries by information handling and disseminating are witnessing the progress of library field. These technological advancements move the college libraries from the isolated libraries to connected libraries (Rahman, 1999).

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The college libraries use the advances and development of information technology for collection, processing, storage, retrieval and dissemination of recorded information.

The activities and services to which information technologies are relevant to college libraries mainly cover the following:

(i) Computer Technology;
(ii) Telecommunication Technologies;
(iii) Reprographic and Micrographic Technologies;
(iv) Library Technologies;
(v) Technical Communication Technologies; and
(vi) Internet, E-Mail, Telex, Fax.

The activities and services in college libraries in which these technologies are used are depicted in the following figure;(Murthy, 1999)

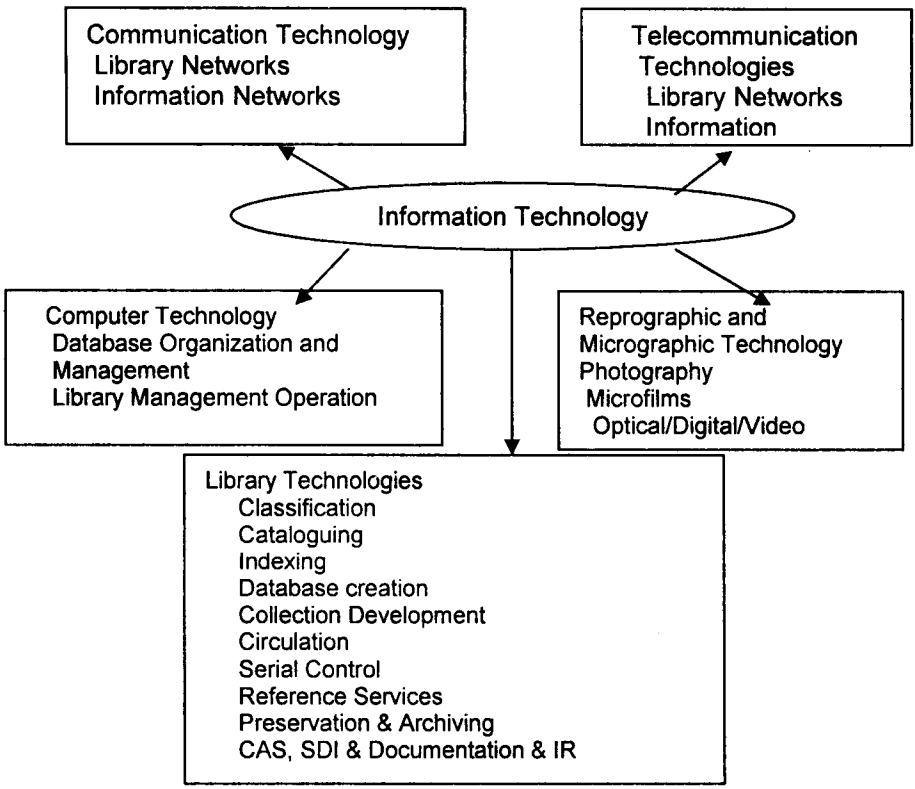


Fig. 1 Information technology in college libraries

2 LIBRARY TECHNOLOGIES

The traditional libraries are now replacing by automated libraries day by day. In the era of information explosion and information revolution the information cannot be handled with the traditional and conventional manual methods. It is the demand of the day that library technologies are implemented to cope up with the challenges thrown upon the college libraries by the information technology advancements.

3 INFORMATION COMMUNICATION TECHNOLOGIES

Computer, microprocessors, lasers, digitalization of information television, telecommunication etc. have brought revolution in printing which has facilitated and accelerated information communication. As many college libraries have computerized databases and produce the technical writings in form of annual reports, newsletter, and compliment slips, letterheads etc. All these can be produced in-house quickly with a high finish by use of computer and laser printer.

4 AREAS OF APPLICATION IN COLLEGE LIBRARIES

Introduction of computer in libraries have immensely enhanced the effectiveness of library services including efficient organization and retrieval of information activities. In a library the activities may broadly be grouped into two broad categories (i) House Keeping Activities and (ii) Services. Under the former come Administration and Maintenance, Acquisition, Classification, Cataloguing, Circulation, Serial Control and Stock Verification. Under the latter comes variety of services such as Documentation Service, Networking including Resource Sharing, providing Information Search Facility and in House Publications, preparation of Casual and Regular Bibliographies, Indexes etc.

5 INFORMATION TECHNOOGY USE IN FUTURE COLLEGE LIBRARIES

Library professionals who keep in touch with the literature on the use of information technology in libraries can have reasonably clear visualization of the functioning of college libraries in future.

The future college libraries have collections in multiple media, will have their activities and services fully automated, will be networked and use Internet and other information networks and so

on. The extent of use of these facilities and systems will vary with the libraries, while some college libraries will use most of the information technologies for most of their activities and services, the less-endowed libraries will use only some of these technology and provide services mostly in manual mode.

Phillip Baker,(Professor of Applied Computing and Research Director, University of Teesside, visualizes the following categories of libraries:

5.1 Polymedia Libraries

Polymedia libraries will have collections in several, independent media like paper, microfilm, compact disc, video disc, optical disc, microforms etc. The organizational and management processes within these libraries will basically be manual in nature.

5.2 Electronic Libraries

Electronic libraries will have widespread use of computers and such other facilities as online databases and automated record keeping and computer-based decision making. The electronic media includes both digital and analogue.

5.3 Digital Libraries

In these libraries all information exists only in a digital electronic format. The information itself may, however, reside on different storage media such as electronic memory or magnetic or optical disk but disk but the users will not necessarily perceive any difference between them. Information in digital form can be accessed simultaneously by many users and at a low cost. While a conventional library might only have one or two copies of a book, a digital library can generate an unlimited number of copies 'at the touch of a button'.

5.4 Virtual Libraries

These libraries will use the technology of virtual reality (VR). It is known as telepresence in simplest form. In a virtual environment one would be able to browse around a library system without having to physically go to it. Using the VR equipment and facilities, one would be able to enter a virtual library, browse around rooms and shelves, use an index or catalogue, select a book (by pointing to it and touching it), open it and read it. Of course, the only place

where the book really exists is in the computer and within the minds of its readers. [9]

Although some virtual library systems are available in the form of packaged CD-ROM products, most advanced systems exist only within the sophisticate computer systems that are supported by advanced telecommunications equipments, to facilitate remote access and sharing.

5.5 Cable Television Libraries

Cable television, also known as Community Antenna Television (CATV), is a service that sets up a master antenna and from it distributes television signals by means of a wire (coaxial cable) to subscribers in a licensed geographical area. The library can provide the necessary source of material through cable transmission.

The TV channels to build their own databases. The libraries will no doubt be drawn into the things and library Professional will have to gear up to meet this gigantic new era. "Zee Ed" TV channel is imparting computer courses for college students. "Zee TV" also offers career guidance. There is a proposal to link IGM Library of Hyderabad with CATV.

6 USE OF IT IN NEW MILLENNIUM IN COLLEGE LIBRARIES

The use of IT in the new millennium is reflected vividly in the vision of the policy document titled Strategic Agenda for the Ottawa public library (published in June 1996) it says:
The paradigm is shifting. Our world is increasingly depending on information. The college libraries will be electronic doorways to information. Library staff of the future will be the navigators, the facilitators and mediators of the digital revolution. They will help the users, retrieve, organize or develop the information they need. Library staff will be as comfortable with computers, networks and databases as they are with books, tapes and story-times.

They will need to train and retrain constantly. They will have skills and strategies to meet the requirements of the users from different categories, age groups and levels of ability and knowledge.

6.1 Vision 2050

Based on expected use of information technologies in libraries. Natalia Grayqierczyk makes a voyage into 2050. She visualizes optical fiber cables and quantum-leap processors constitute the structure of the Global Library, a repository comprising a colossal

digital collection amounting to the volume of at least 25,000,000 complete Britannica. All such information will be available at fingertips. Without having a browse through dreary catalogues, without being afraid of missing crucial information because of an erroneous code, not knowing the author's name. The disheartening 'Out of Loan' has become a thing of the art, a phrase in a dictionary.

7 CONCLUSION

The college libraries are entering in information technology era. In new millennium there may not be any area of operation or service where you cannot apply IT and get benefits of it in avoiding duplication of effort and work in library activities. Its application will facilitate co-operation and resource sharing through library networks.

It will help in introducing new services and improve existing services. It will allow integration of various library operations. It will facilitate faster information storage and dissemination. It will help to increase the quality and range of services and execute repetitive nature of work. Application of IT will facilitate easy and wider access of all kinds of information sources. Its application will help in saving time, space, energy, resources, in increasing efficiency and effectiveness in library activities and operations.

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GOOGLE SCHOLAR: A SCHOLARLY SEARCH SERVICE

Bharat Kumar*
D S Dabas**

ABSTRACT

Google Scholar (beta) is a new subscription and advertisement free scholarly search service of Google Inc, for searching the scholarly contents on the Internet. It sources its contents from ACM, IEEE, Open WorldCat, various academic publishers, and from the privileged and openly accessible Internet. It searches a scholarly subset of the main Google index, cutting through the clutter created by non-academic information in the search results. The backward and forward citation analysis and extraction, library search for the availability of the books and online purchase of the articles or books etc not found online, are its unique and very useful features. Ranking of the results by their relevance to the search query is useful and good especially for the exploratory searches. It can be improved on several aspects e.g. by providing more of search and selection operators and the custom relevance schemes. It defines a new environment for libraries to adapt and adopt.

The paper describes the Google Scholar contents, service, search interface & its types, search results and pdf, html, citation and book references. Highlights the features of Google Scholar.

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HYPERMEDIA AND MULTIMEDIA RESOURCES IN LIBRARIES AND INFORMATION COMMUNICATION

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ABSTRACT

Media is a very elusive term. A medium is vehicle of communication through which information is transmitted from a sender to a receiver. Hypermedia and hypertext used to mean the same thing. The term hypermedia and hypertext used to refer to information containing higher proportion of graphics and images and is almost always used where the information also include video sequences or any form of animated information. Multimedia refers to the seamless integration of data, text, images and sound within a single digital information environment. The paper presents the use of hypermedia and multimedia in library and information communication.

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IMPACT OF ICTs ON LIBRARIES AND INFORMATION COMMUNICATION

Nadeem Ullah Khan*
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ABSTRACT

Concept of libraries has changed altogether due to advent of technology. The world of both communication and the production of information are changing at a very fast pace, and the convergence of these had huge impact on libraries. This impact as seen in the form of the poly media library, the hybrid library, the hypermedia library, the multimedia library, etc.. In the light of this, how concept of libraries has changed altogether, has been shown in this paper. The paper tries to throw light on the need of converting traditional libraries in to Digital library Virtual library hybrid library, poly media library, hyper media and multimedia libraries. We are in the Information Age. Our society is moving through a 'cyber culture'. Twenty first century has emerged as an exiting period of transition and change. IT has become a potent force in transforming social, economic and political environment globally. At present it is almost beyond one's imagination as to where the developments in IT will lead us to electronic banking, e-mail, information retrieval systems, e-commerce structure and define our lives. These changes, characteristic of global digital era affects our libraries also. In the present scenario of rapidly changing environment, infrastructure and service facilities should be made available according to the need so as to compete and survive in era of globalization and competitiveness. In any organization along with the modification in policies the change in the library system is also of prime importance. This paper provides a glimpse of what is a digital library, its objectives, characteristics, components, barriers and advantages.

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IMPACT OF ICTS ON LIBRARIES AND INFORMATION COMMUNICATION

Manju Kumari*

ABSTRACT

Information is considered as an important asset for the library and its resources. It has been playing a considerable role in socio-economic development of society. It has been character of its own to be pervasive in nature. A library without information can't be imagined. It is an immune for the library to be developed. The use of information in every sphere has become so wide spread that there is a greater need of applying certain technology to information works and activities to accelerate at its use. It affects everybody. Advancement brought in technology has given everything a new concept of being, in other words everything has been operationally forced to run in accordance with. By using technology, everything is being developed. Advancement in technology has made information communication system capable of being sound in storage, processing, retrieving and dissemination of information. Really, technology brings advancement in each & everything. It makes everything scientifically applicative, having engineering discipline & management technique. ICTs have ushered new era in every field of activity nowadays. It has made it possible to bring the information explosion into one's finger's tips. Information is not private property it can be had from various types of communication networks. These fast & changing methodologies of information, have given the world a new name i.e. Global Village. It has also changed and reduced the distances of the world. This paper tries to understand the impact of ICTs and its application in the desired area of library. Explain the concept of Automated Library, Digital Library, Virtual Library. Highlights the need for Library Consortia and use of Subject Gateways, and Journals E-Database for the effective information Communication.

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IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY ON LIBRARIES AND LIBRARY PROFESSIONALS IN BANGLADESH: A STUDY

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Md Anwarul Islam[**]

ABSTRACT

The computer and communication technologies have brought dramatic changes in the libraries functions and the organizational structure of libraries. These technologies enabled libraries and users to access multimedia information from remote location anywhere in the world. The new information society demands that libraries become learning centers with collections or services available electronically over the Internet as well as other online services used in the office or at home. As a result it is also demands that librarians will have to learn new roles and skills in order to meet users' needs. This paper is concerned with the use of new technologies in library system and how such technologies might shape the future of libraries and library professionals in Bangladesh.

1 INTRODUCTION

Civilization began and flourished with the blessing of new invention. Time to time some intelligent inventions could make tremendous development. Some times these changing are called the blessing of renaissance. Present time is called the era of digital renaissance. The terminology Information Technology (IT) is changed as Information Communication Technology (ICT) for its communication feasibilities. It makes a bridge between continent-to-continent, society-to-society and group-to-group. Libraries and Information Centers is the pathfinder of knowledge. The flow of knowledge is changed its formats, digitization or electronic format

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of knowledge is more feasible and the demand of the new generations. Card catalogue is changed its electronic shape as online public access catalogue. ICT are using in the field information procurement, processing (including cataloguing), user services, borrowing, information dissemination, communication, networking almost all the field of the interest of the user satisfaction. Diversified use of ICT in libraries are influencing the LIS professionals a lot to make change the traditional library systems. Though the ICT infrastructure of Bangladesh is not at par with the developed countries, but a significant changing is shown in the field of Library and Information Science.

2 BRIEF HISTORY OF BANGLADESH

Bangladesh is 147,570 sq. km. and is bordered by India on the east, west and north, and by the Bay of Bengal and a small border strip with Myanmar on the south. Population 135.2 million, Male-Female ratio 105.4 and density per sq km 928, Life expectancy is 64.9 years; population growth rate 1.5. Per Capita national income is US$ 470. Per Capita Gross Domestic Product (GDP) is US$ 445; GDP growth rate in constant price is 5.38%. It comprises a) 6 divisions, b) 64 districts, c) 507 police stations/upazilas, d) 4 city corporations and c) over 86,000 villages.

3 STATUS OF LIBRARY AUTOMATION IN BANGLADESH

The computer and other information technologies have brought about dramatic changes in the way to libraries function, in the nature of service offered, and the organizational structured of libraries, these technologies enabled libraries and users to access multimedia information from remote location anywhere in the world. Learning can now be obtained from non-traditional ways. The new information society demands that libraries become learning centers with collections or services available electronically over the Internet as well as other online services used in the office or at home. Bangladesh is going to establish a sustainable Information Communication infrastructure for keeping touch with global information flow. Libraries and information services centers will get immense facility to co-opt with information world. Internet connections is not satisfactory, broadband connections, Digital Data Networks (DDN), Radio links are still inadequate due to lack of proper funding.

Bangladesh passed about 34 years after the independence. But it could not achieve remarkable development in the field of library and information services. Poor ICT infrastructures lack of funding

is the main hindrance to develop our library services. Till now digital library is unthinkable in Bangladesh. Government owned public libraries in Bangladesh consists of 1 central public library in Dhaka, 5 other divisional public libraries and 64 districts public libraries under the department of public libraries of the government. Some of these libraries are using computers for their office management, but not for library management. Internet facilities are not yet been established there.

In 1986 after the reaching of CDS/ISIS by UNESCO some libraries start for library automation using this software. Graphical user interface version of CDS/ISIS began easier to the user. Now WINISIS become popular. Some of the special libraries, public and private universities libraries are using various types of software. Some of them are serving their catalogue services through Internet. It is found that only financially rich libraries are providing the automated library services.

In Bangladesh there are no adequate automated library services. Some of the special libraries are providing automated library service with the OPAC i.e. Prime Minister's Office Library, ICDDR, Library and Information Service Unit, BIRRDEM Library etc. It is found that only financially rich libraries are providing the automated library services. Comparatively Private universities are ahead to the public universities. Among the 21 public universities-University of Dhaka, Bangladesh University of Engineering and Technology (BUET) are providing automated library facilities. Some universities, like Rajshahi University, Chittagong University, Jahangir Nagor University, Shahjalal University of Science and Technology, Khulna University and Islamic University, are using computers but they do not yet introduce computers for automated library services. Among the 52 private universities, most are not using library management software. But a few private universities, like North South University (NSU), Independent University, Bangladesh (IUB) and East West University (EWU), Stamford University, Daffodil University, Ahsanullah Science and Technology University, Darul Ehdan University, Islamic University of Science and Technology are providing automated library services.

4 COMPETENCIES AND SKILLS OF A MODERN LIBRARIAN

A modern librarian means a librarian who has capability to handle his job with competence and having knowledge to manage smoothly to discharge his duty efficiently and effectively. To

introduce ICT in library to manage information, he needs to get knowledge as below:

- Database
  - (i) Introducing Database as cataloguing
  - (ii) Database as information lending
  - (iii) User management
  - (iv) OPAC
  - (v) Database designing
  - (vi) Data Resources Management
- Internet
  - (i) Expertise knowledge in web-based information retrieval
  - (ii) Navigation
  - (iii) Filtering Information
  - (iv) Web authoring
  - (v) Hyper Language Literacy
- Digital or Electronic Information
  - (i) Competency to manage or handle CD-ROM
  - (ii) Digital knowledge structure
  - (iii) Development of digital information resources
  - (iv) Development of machine readable catalogue records
  - (v) Digital knowledge structure
  - (vi) Optical-based information products (CD-ROM, CDI, DVD)
- Network
  - (i) Internal Network-personal networks, intranet, LAN
  - (ii) External Network- External personal networks, extranet, WAN

5 HRD AND ICT IN BANGLADESH LIBRARIES

Human resource development is a significant issue to provide the better services in library and information centers. Due to the using of ICT the naming of the Department of Library and Information science of University of Dhaka is renamed as Information Science and Library Management. The curriculum of this faculty also been changed. Only two public universities are providing the Honours and Masters level education in LIS. Some of the institutions are providing post-graduate diploma and certificate courses in LIS. Most recently a private university has launched a certificate

course on digital librarianship. As our need these steps are inadequate.

To develop the HR we need some more effort as below to provide a better service:

- Higher Training on Library Science
- Training on Technology
- Arrangement of Refresher Courses
- Seminar for knowledge sharing
- Round table discussion
- Arrangement visits locally and abroad
- Provide available scope of higher study

Information infrastructure in Bangladesh is not sufficient. Most of the libraries are not getting chance to use ICT tools in their library services. Some of the libraries are using their computer in DTP works. Due to the negligence of the parent bodies of the libraries are one of the main causes of development. Library based or knowledge based education and society is not yet established.

6 RECOMMENDATIONS

Two key points of Information Communication Technology are remarkable here – a) Technology does not itself solve everything of the field of interest. b) New technologies do not always replace the old. They may co-exist and in doing so enhance the range of human experience without necessarily diminishing the experience of those who do not use them. From the discussion about the aforesaid key points of ICT show us the co-existence of old and new simultaneously. So we can recommend our sincere comments to the development of ICT status in Bangladesh and to survive our libraries and information centers as below:

(i) Telephone and PC density should be raised to a satisfactory level;
(ii) Encourage private investments in telecommunication and information technology sectors;
(iii) Provide adequate local and national infrastructure for handling ICT and networks;
(iv) Make the awareness of a large interest group to use ICT for information seeking in library and outside the library.
(v) Provide training facilities to create trained manpower to handle the ICT in libraries efficiently;

(vi) Encourage public and private participation, especially NGOs, for ICT development and ICT services;
(vii) Introduce Internet to all sections of society, especially in business and education, and develop national contents for the Internet;
(viii) Reduce difference between telephone usage in urban and rural areas;
(ix) Update and strength ICT education in the courses of Library and Information Sciences;
(x) Provide adequate fund for Library and information services unit to introduce ICT;
(xi) Encouraging and supporting people with computer literacy needs;
(xii) Libraries need to be equipped with multimedia technological aids to elicit code, store, retrieve and disseminate information;
(xiii) Library and information managers need to educate and upgrade their technological skills to be able to serve their users better; and
(xiv) Develop a strategic plan and library structure—action plan, policy decision, centralised/decentralised resources, facilities.

7 CONCLUSION

In the global digital information age those who are either unable to access the Internet and the World Wide Web through the application of information and communication technologies are increasingly disadvantaged in their access information. There is an equally important digital divide that we should also be concerned about, and that it is the gap between the state of ICTs and levels of access and utilization of the internet in developed countries. The contribution made by the Internet to the poorest nations of the world is likely to be, at least for the foreseeable future. In this regard as LIS professionals of Bangladesh, we have to stay and force our effort to utilize ICT in our library and information centre to explore our resources for all in user friendly way and also utilize ICT in Library and Information centre to collect resources form other groups to keep touch with the global information flow.

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IMPACT OF INFORMATION TECHNOLOGY ON LIBRARY AND INFORMATION PROFESSIONS

Bhawna Khora*
Vindu Anand**

ABSTRACT

The primary functions of a library are to collect, organize preserve and dissemination information to the users with the passage of time, several techniques and technologies have emerged for handling the Information more speedily and effectively. This paper examine, impact of Information Technology on Library and Information profession. Information technology is single most significant factor, which has affected all aspects of human endeavor, Information Technology mainly has two facts: information processing technology and information storage and communication technology. This paper is discussed the concept of Library Network and their different types such as Local Area Networks, Metropolitan Area Network, Wide Area Network and Value Added Network in detail.

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INFORMATION COMMUNICATION REVOLUTION

Preeti Mahajan*

ABSTRACT

Information Communication Technology (ICT) is an electronic based system of information transmission, reception, processing and retrieval, which has drastically changed the society in all aspects of human existence. In fact, ICT revolution is the central and driving force for globalization as it has made rapid and widespread dissemination of information and knowledge possible. From Gutenberg's printing press to the Internet the means of accessing information and knowledge have totally changed. The world is fast becoming borderless, as the variety of tools that are available has made the accessibility of information easier. The technological developments in the form of electronic databases, online services, CD-ROM's and Internet have radically transformed access to information. These are resulting in new products and services for automating information retrieval and are increasingly becoming accessible worldwide. Markets for new information and interactive services are being continuously explored and developed. The by-products of the convergence of ICT's available in the form of e-journals, databases, portals, subject gateways, bulletin boards, directories, search engines, scholarly discussion lists, mailing lists, web blog, etc.

The paper describes the transformed society of today wherein there is no dearth of formal and informal channels of information communication as a result of the rapid developments, convergence and integration of various ICT's. Discusses various by-products of this convergence in the form of e-journals, databases, portals, discussion lists, conferences, etc. that are useful in the field of librarianship.

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INITIATION OF AUTOMATING LIBRARY SERVICES AT SMT. HANSA MEHTA LIBRARY: AN EXCAVATING EXPERIENCE

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ABSTRACT

The present paper describes the practical aspect of retro conversion work carried out in a University Library, especially a large one. It also provides guidelines to other libraries that have yet to automate their library. It reflects practical approach on involvement and motivation of library staff in automating library services.

1. INTRODUCTION

The University Library of The Maharaja Sayajirao University of Baroda was established on 1st May 1950. At the time of establishment of the M. S. University of Baroda, a collection of 25,000 books belonging to the Huzur Political Office and Secretariat Library was handed over to the University. Thus University Library was established with this core collection.

One of the largest University Library System (ULS) in the country comprising of University Central Library (Smt. Hansa Mehta Library (SHML)) and another 14 Constituent faculty libraries. It has more than 22000 active members, which accommodates at a time 1500 readers and having a single largest reading room to equip 1100 students. SHML also houses 500,000 volumes out of the total collection of 7,50,000 of the entire ULS of the M S University of Baroda. ULS caters to the academic and research needs of teachers, researchers & postgraduate and undergraduate

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students of all the 13 constituent faculties comprising of 85 teaching departments and 5 Institutes.

Before a decade, University authorities had well thought to computerize its large library system i.e. by way of appointing an expert as an OSD in the Library in the year 1995 and necessary demanded infrastructure was also made available to the ULS. Even after the support of the INFLIBNET, the automation activity of the ULS of the M S University of Baroda could not gain momentum. Unfortunately, the entire efforts of automating the ULS of the M S University of Baroda were considered as an unsuccessful effort till 2003.

2. LIBRARY AUTOMATION

Several factors like social, economic and technological factors have made it necessary for Libraries to modernize the administration and management of their libraries for providing effective services to their clientele. Tremendous growth in published literature in various forms and its availability has posed a problem to make it available to its users manually. It is not possible for any library however big, to collect and house everything that is useful to its clientele.

Automation in Smt. Hansa Mehta Library was a step towards this need to keep pace with the changing technology and to provide better services to its clientele in fulfilling the Five Laws of Library Science on which the entire profession stand.

In real sense, the Library automation work of Smt. Hansa Mehta Library (SHML) was well planned after the joining of a full-fledged University Librarian in September 2002.

3 LIBRARY APPLICATION SOFTWARE

In the year 2000, SHML took a decision to procure SOUL software developed by INFLIBNET with a view to meet all the necessary needs of SHML. Somehow, it was not made operative to carry out various functions of the Library till September 2002.

4 PLANNING FOR LIBRARY AUTOMATION AT SHML

As mentioned earlier, the initial infrastructure was available and moreover, the Library had also purchased SOUL software in the

year 2000. To start computerization work at SHML was a Herculean task because of the wasteful eight years in this direction and to motivate the existing staff of the Library required a great skill and technique to gear up the computerization process.

There was initial criticism, resistance and lack of confidence among the Library staff and ignorance about the future fruit of computerization prevailing in SHML the way it exists in other Libraries. To overcome from this prevailing environment in SHML and to motivate the Library staff for the computerization, how practically their work will be smoothened and easier by computerizing the library services was made realized to them. That has given a big boost for an environment for automating library services at SHML.

5 WORK FLOW FOR AUTOMATING LIBRARY SERVICES

(i) SHML follows Library of Congress classification and it has a subject card index of 72,000 + unique subject headings were converted into Excel file with its Class Number and Subject Headings to achieve uniformity and multiple subject headings at the time of creation of database. This has also made easier, the task of classifying the documents which inculcated the interest and willingness of the library staff to work for computerization.

(ii) The ULS of the M S University of Baroda adds 10-12 thousand volumes every year. The automation of Acquisition procedure was introduced from 1st April 2003 to make available all the acquisition data including the expenditure under various budget heads, vendors, pending orders etc. This has motivated our Acquisition section to automate their in house functioning. After accessioning they paste bar code on each document.

(iii) The documents, which are acquired in the SHML after 1st April 2003, their database was made available in an electronic form and not in card catalog form. All these scattered campus of the M S University of Baroda is having an intranet facility which has made this task easier by discontinuing to prepare card catalogue for the entire constituent Faculty Libraries from 1st April 2003 on wards.

(iv) From 1st January 2004, entry of current serials was also switched over to SOUL software. Thus SOUL software was being used for Serials control too.

6 RETROSPECTIVE CONVERSION

To shape this dream of the library staff the University authorities were of the opinion to hire an outsourcing for its retro conversion and in this direction the efforts were also made, which were found unpractical as to the quality of the database. Thus this idea of out sourcing for database creation was not implemented. As most of the LIS schools in Gujarat have given place to teaching of SOUL software in their syllabi has moved the Library to employ young energetic future LIS professionals with their basic degree in LIS for retro conversion of the SHML was a right decision.

It is the first time that University has generously sanctioned 20 positions for data entry operators with a minimum qualification of BLIS who were asked to do sixty entries in six hours. Usually it never happens in the University setup to appoint a person with a job description. Moreover, these data entry operators have also been facilitated for extra hours duty at the rate of 13 rupees per hour. The task assigned to them was to enter a data in at the retro conversion sub module of SOUL with minimum three subject headings using Excel file of the Subject Headings and enter the data field directly from the book for each document and generate a bar code for all the documents and paste it on them.

BLIS graduates are well conversant with the SOUL software as well as the technical aspect of the database creation including multiple subject headings. From the various options for starting Retro conversion work, Library took a decision to create a database on the basis of the physical information from the document itself to minimize minimum human error, as it exists in various other options.

The successful execution of the above four steps within last two years have yield to building of confidence and proactive approach of the library staff to start fully automated library services on the campus from the academic year 2005-06 was the decision of the library staff and not of the library authorities. With the above provision, the retro conversion work of the SHML was initiated on 11th April 2005.

Staff members of SHML had decided to start automated services from 12th August 2005. A database of 2,40,000 records was already ready by that time and an arrangement was also made to enter data of the book that did not exist in the library database at the time of issuing.

(i) ***Hurdles*** - While carrying out retro conversion work, some hurdles were faced during the data entry work. Such as some documents had accession numbers, which already existed. i.e. there were duplicate accession number. This was mainly due to human error and as some books, which were merged in the Library's collection already contained accession numbers. For checking the duplicate accession number, Accession register was referred to verify the duplicate accession numbers. The problem was solved which also helped in updating our own record and thereby the data.

(ii) ***Non-availability of Title Page***- Most of the Libraries come across this problem. Many a time, it is found that title page in the Library document is found missing. Such books were identified and with the help of the accession register, entire details were typed on a page and a title page was generated which was pasted on the document which served as a Title page for that document.

7 FINDINGS

Following are the outcomes of the retro conversion task carried out at Smt. Hansa Mehta Library:

(i) Multiple subject headings for each document satisfies narrow to broad subject awareness of the users, which ultimately helps in optimum usage of the existing collection. After computerizing library services, it has been observed that the book browsing and borrowing has increased by three times which reveals that the computerized catalogue satisfies the user's various access points which were not feasible in the card catalogue.

(ii) Duplication of work for each title right from the book selection to shelving is waived which has resulted in the efficiency of the library staff. With the result, there are no pending books in Acquisition and Technical Processing Unit.

(iii) It has helped in updating stack and also the accession register.

(iv) Even class IV employees of the Library find themselves useful for carrying out various Library operation like Bar code generation, issue and return of the books etc. as they were fascinating themselves to operate hand-held scanners for the issue and return of the books and also to print bar codes for the book.

(v) Most surprisingly, the staff that was on the verge of retirement was also found eager to work on a computer for the Library operation. This has been possible because of the staff's total involvement in contributing to automation of the Library.

(vi) Unlike the usual less adaptability among the senior professionals as seen for any versatile task, it was not an exception for the retro conversion task except for the University Librarian. This was a pathetic outcome at SHML.

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LIBRARY AND INFORMATION NETWORK

Babita Garg*

ABSTRACT

Library networks may be defined as two or more libraries engaged in a common pattern of information exchange through communication with the purpose to serve the potential user. The network usually consists of formal arrangement where materials information and services provided by the libraries are available to the users. Library may be of different orientation but they agree to serve one another on the same basis as each search its own constituents computers and telecommunications are the link to facilitate the resource sharing and maintaining network among libraries and information centers. The main purpose of networking is to provide sharing of the resources, saving the time of the users and providing very useful and effective technology for the potential users. In the field of library science the term has been used broadly to mean anything fro the organizational resource sharing, arrangement established among nearby libraries to automated networks such as these operated by bibliographic utilities.

The paper describes the concept, definition and characteristics of library network and information network. Compares the global v/s local resources and concludes a brief note on different library and information networks in India.

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LIBRARY AND INFORMATION NETWORKS IN MODERN ERA

Naresh Chandra Verma*

ABSTRACT

Library network refers to the use of computers to save the needs of library users. The application of computers in the library operations avoids repetitive jobs and saves lot of lab hour, time, speed up operations, and increase use of library resources. A computer network is created when several computers and terminals deices are connected together by data communication system. The set of computers may include microprocessors, minicomputer, and medium scale computers. The set of terminal devices may include dumb terminals, intelligent terminals, etc; and miscellaneous devices such as modems, commonly used for data transmission. Each computer in a network can have its own processing capabilities and can also share computer hardware, programs and software and data files.

This paper discusses planning and importance of information networks and its methods and techniques to improve access to information available around the globe in modern era.

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LIBRARY AUTOMATION: A CASE STUDY OF PARUL AROGYA SEVA MANDAL CENTRAL LIBRARY, BARODA

Dhaval Bhatt*
Jimit Makwana**

ABSTRACT

Library is considered as the heart of any institute. Libraries, librarians and library professionals are facing a great challenge about their survival in the age of information technology. SOUL software is used to computerize our library system. Some problems faced by our library system and its possible solutions have been discussed in this paper.

1 INTRODUCTION

Parul Arogya Seva Mandal was established in year 1990 with an aim to serve the needy and poor with good education, medical facility with this three goals in view the mission of achieving same spread to different part of Gujarat by way of charitable / free OPD's, hospitals and educational institute. This trust started various educational institutes in Parul educational campus in the year of 2003 at Waghodia. Various institutes on this campus and having collection of more than 30,000 books subscribe more than 277 journals.

In the past few decades in Information Technology have driven evolutionary changes in the ways we work, learn and communicate library automation. Automation can be our greatest tool towards this effort. It has been started in our Institute. This is our first step to enter in 21st century with the help of IT.

2 CONSTITUENT LIBRARIES

The following table shows the constituent libraries of Parul Arogya

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Seva Mandal with number of books, periodicals and CDs:

Sr. No.	Institute	Books	Periodical	CDs
1	Parul institute of Engineering and Technology	10504	82 (70+12)*	469
2	Parul institute of Diploma Studies	1203	13	20
3	Parul institute of Pharmacy	1810	17	16
4	Baroda college of Pharmacy	1516	17	
5	Parul institute of PTC Education	3944	13	02
6	Jawaharlal Nehru Homeopathic Medical College	3901	22	-
7	Parul Institute of Physiotherapy	681	15	217
8	Parul Institute of Management	1124	45 (44+1)*	32
9	Parul Institute of Computer Science	538	20 (19+1)*	-
10	Parul Institute of Hotel Management	1562	13	-
11	Parul Institute of Girls Polytechnic	3205	20	-
	Total Collection	**29988**	**277**	**756**

* Number mentioned within brackets indicate the Indian and International periodicals subscribed.

3 PARUL AROGYA SEVA MANDAL CENTRAL LIBRARY

In the context of Parul Arogya Seva Mandal Central Library started the automation work from 06-01-2005.The work is completed in 28-09-2005.At present the central library has membership of 3359 students of different institutes, teaching and non-teaching staff through out the campus. The managing trustee approved the proposal of library automation. A well equipped library and information center provides critical information support to the students and faculty of campus using both printing and digital resources. Fully automated library using SOUL (Software for University Libraries) software for library operations. Online Public Access Catalogue (OPAC) available on LAN through Parul Arogya Seva Mandal users.

Completely automated library management systems make it possible to borrow books at any time of the day and night as well as make reservation online. Multiple copies ensure that resources are easily available for reference in the library. Trained staff is also always at hand to assist students/staffs. In future faculty members dynamically upload all their lecture and research notes on the Parul Arogya Seva Mandal Campus Intranet. These are available to the students with the simple keying in of a password.

4 LIBRARY AUTOMATION

Library automation which started in late 70s in few special libraries has now reached most of university libraries. It is yet to take off in Parul Arogya Seva Mandal Central Library in Baroda owing to various problems.

Central Library of Parul Arogya Seva Mandal is functioning from 2003 in a Engineering and Technology building at Waghodia, Baroda. The library is concerned with academic needs of students, teaching and non-teaching staff and in broader and deeper sense with the aims and objectives of the college. The library working has been computerized with the help of library software SOUL (Software for University Libraries) and internet connectivity for the better development of evolution, research and extension education and this has a positive and qualitative impact on the library activities and information services to users.

5 FINANCE

For the finance required for the whole project of library automation from the financial year 2005-06, the library fee was enhanced by Rs.40.00 per student for the library automation and Rs. 1,80,139.23 amount was collected from Parul Institute of Engineering & Technology Institute for automation of Central Library.

6 SELECTION OF SOFTWARE

Selection of software for particular application is an important activity. Finding and buying the right software and evaluating the software supplied for library application are crucial. Software programs have to be considered as tools that help to solve problems rather than as 'solution' to problems. In this concern we compare different types of library software like wise CDS/ISIS, LIBSYS, Librarian, LMS, Suchika, NETLIBB, Techlib+, TLMS, and SOUL etc.

There is an apprehension that the technology, software would be expensive and unaffordable. The cost of software depends on the level/stage of automation. From the user point of view cataloguing system is most important and also forms the base for other library activities. Keeping these two points in view INFLIBNET developed SOUL (SOftware for University Libraries) software was selected and it is available at a very nominal price Rs.50,000/- and a college version is available of Rs.1,50,00/- to all the university libraries in India.

7 PROBLEMS IN LIBRARY AUTOMATION

This paper tries to identify the barriers of automation in catalogue and circulation module in soul software and analyze the technology available in Parul Arogya Seva Mandal Central Library. Some of the problems faced during automation of Parul Arogya Seva Mandal Central Library as follows:

1) There is no option of EDIT and FIND in add author So not modify and find a data from author master.
2) There is no option of EDIT in publisher /Supplier/binder database. So not modify and more than one data enter in option of name, city, state, country, pin, contact person, e-mail, phone, telex
3) There is no option of EDIT, NEXT, and PREVIOUS, and FIND in subject database
4) No option of VENDOR in this add option
5) Creation a database in statement of responsibility are or a add option in this are, so not written down in responsibility are though time has been saved of data entry operator
6) Along with publisher and place option for country is also necessary, so that the software can be used at international level
7) In the column of collection type there should be database which shows selection option
8) Some listing of database is required in bibliographic note, so selection can be easy for data entry operator i.e. index, appendix, bibliography, etc.
9) In illustration option some listing of database has been required, so selection able software can be very useful, i.e. tables, graphs, figures, charts, photos, diagrams etc.
10) In additional material option some specification are required i.e. CD, floppy, microfilm, microfiche, scripts,

photos, cassettes and some other sources are required in this option

11) In location option sub-location option is required, so find out the source of information easily and time have been saving not only users but also a library staff
12) In language option some more international state language has been required, so this software is easily use by international level
13) There is some implement in language option so, that error become less
14) There have some facility to write traditional language easily in language option
15) Sometime automatic blank is occur in language option it should be improve
16) In optional entry some new option has been require in series information in a statement of responsibility, so data entry and make a good database in the library
17) A Statement of responsibility are In optional entry in volume and part information has been required then one or more author or editor can be written down
18) An error of accession number is already there is coming after the save data, so waste of time of data entry operator, than improving a database that this error or message is coming after a type of accession number.
19) Speed of this software is very slow and than retrieval of data speed has been also very slow, so improving a speed of software than software will be made a user friendly and most favorite in universal level
20) Some facility and options are required for research libraries so, software is useful at universal level.
21) In class number and book number option in data entry sheet they should be a separate new column
22) When the screen become blank, then again restart the computer or its process is take a lots of time than time is wasted of data entry operator
23) In supplier column they should be new option
24) In this software thesaurus is not inbuilt, if the thesaurus is inbuilt than information retrieval is faster than other software and specific information or relevance information is retrieve through this software.
25) Keyword search or multiple keyword search is also required in this software. Like google, yahoo etc. search engine, same data retrieval is possible so this software is very helpful to research and development (R&D) institutes

and university libraries and its users like JRF, lecturer, Ph.D. scholars also

26) Modification in master database is also provided in this software.
27) Customization of software facility will be providing in this software. like edit, modify, changes in future etc.,
28) Dictionary option is also not provided in this software so user easily operates OPAC and specific information retrieve in right time.
29) Two types of issue are provided in this software, one general and second Reference issue. If the research scholar / user required more than his criteria wise books so he/she easily refers all the documents databases at a time in the library.
30) There should be no restriction for users for using number of reference material within the reading hall.
31) The existing library staff is not properly computer literate due to lake of proper training in library automation.
32) There are some mechanical problems of failure of networking, hanging and computers.
33) There is no facility in master database to enter the course/designation more than one it can not save at the time. It can save only one entry at the time than we have to exit than go in this module and add option than save one entry.
34) In membership form in new entry option phone number save in 10 digits not more than, otherwise error come in data-conversion and alphabetical character is also not allowed in address.
35) In membership form there is no facility in enrolment number (ID number) to save more than 10 digits.
36) There is no facility in circulation that you can not change particular users issue period and no of issued materials.
37) Some of existing library staff members are not taking interest due to lack of proper educational and professional qualifications as there is a surety of promotion even without being involved.
38) Due to lack of space in the library, there are three computers with printers and bar-code printer housed in a small room.
39) Only those books which have not been returned by the teaching and non-teaching staff and hence, bar-coding of these books have not been done.

8 EXPERIENCES OF LIBRARY AUTOMATION

a) The status of particular book is known within seconds.
b) Reduction in library work load
c) Improved services to users
d) Repetitive work like preparing of different types catalogue entries, typing of letter, has been eliminated.
e) Providing on-line access and search of information possible.
f) Writing of call numbers and making a card by AACR-2 in catalogue cards have been avoided, it's done by this software.
g) Only one bar-coded Library cum Campus card is issued to the users which serves for both the purpose
h) How many books are issued to users is displayed on computer screen immediately.
i) Borrower cannot do cheating in borrowing books as was possible in the manual system by using both the original and duplicate library tickets.
j) The librarians' traditional function as mediator between information and patron will expand and become more diffuse and challenging.

9 FUTURE PLANS

a) To provide online library registration through Internet
b) To make available online issue / return, preservation / fine etc.
c) User once registered through internet will be provided with a password to access library facility.
d) User can check availability status, his account history and fine etc. online.
e) Online feedback facility will be made available.
f) Guidelines for use of the library will also be available
g) References will be made available online to students.
h) We are trying to make a digital library by using greenstone digital library software.
i) To provide Current awareness service, Document delivery service, documentation service, SDI, and indexing service
j) Make library's website, to solve query by users directly.
k) E-journals and E-databases would be subscribed.
l) Fiber-optic connectivity for all Institutes with the central library including hostels, administrative offices, banks in the campus and computer lab.

m) Plan for academic archives to maintain a record of academic and research output of the university, Including Curricular, co-curricular and extra curricular events, teaching aids classroom materials developed by the faculty, Academic and curriculum vitae of faculty, copy of each of books and scientific papers published by the each faculty members.

10 CONCLUSION

In modern times any developing nation can not afford to neglect the existence and advancement of information technology. New technological developments in the form of computers, telecommunications, electronics, reprography and micrographs have been adopted in libraries bringing a new concept to library systems. In traditional library the repetitive work is very time consuming and the same has been avoided in automated libraries.

Parul Arogya Seva Mandal Central Library is marching ahead with application of modern technology for dissemination of information to its students, teachers and scientist in a much better way. There is a considerable increase in the number of students and teachers who visit the library. There is a qualitative and effective change in the services rendered by the library staff to its users. There is also remarkable change in the efficiency of some of the library staff members by showing great interest in providing library services. The users are searching information on their own through OPAC which is saving a lot of time.

It is desired that this paper need not have any conclusion, as there should not be an end to the creativity of a librarian and all of these challenges must be at the fore front of our programs for the future.

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LIBRARY SERVICES TO BLIND USERS IN DIGITAL ENVIRONMENT: THEIR FUNDAMENTAL RIGHT IN THE INFORMATION AGE

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ABSTRACT

To day in the technological age, libraries are exploiting latest techniques to facilitate their users and capable to provide access all information to their nearest end. Through the Internet, any user can access any information from any corner of the world. The Internet have made the world so small, users may acquire and share the knowledge each other even those are who totally unknown to each other. Information technology have given the opportunity to provide equal library facility to all including visually impaired users, we the LIS professionals should not ignore the needs of the blind user and should have fare attitude towards these special users, it is we who just only have to understand the technology and users. These users should be able to use the libraries as a platform of source or gateway to national and international information, knowledge and leisure.

The paper discusses the need of digital library for blind users and presents the condition of blind libraries in India, legal aspects of equal rights to information access by these users in the scenario of library and information, the role of LIS organizations and professionals, guidelines and basics of developing a digital library for visually impaired after understanding the appropriate approaches in respect of utilization of latest technologies.

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LIS RESOURCES ON THE INTERNET

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ABSTRACT

The paper discusses the access of information by LIS Professionals in IT scenario, the resources of professional information from where they can their news, views, and ideas, the use of technologies of resource sharing among LIS professionals so that they can make them capable to manage the knowledge activities and to facilitates better information services to their end users.

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LISTSERV A VIRTUAL ASSISTANT OF PROFESSIONALS IN DIGITAL ERA

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ABSTRACT

In this information age everyone has some problems to implement IT application in libraries so library professionals must keep up-to-date him/her with latest development in the field of information technology and LISTSERV is a medium to share our ideas and problems with group of professionals after subscribing the list. LITSERV inception was in 1986 for IBM mainframes on the BITNET academic network, Eric Thomas of L-Soft International wrote the First version in 1986 and its expansion is continued and today it becomes the predominant system for professionals

This article emphasizes the meaning and need of LISTSERV its type as: Open and closed; Moderated LISTSERV; Peered List: and the Architecture of LISTSERV. Describe the types of mailing list are available on the web, architecture of listserv and how you can subscribe and unsubscribe the list? List header and keywords, Listserv functioning, how to send a mail to list and customization part are discussed in this article. In the end some famous lists for library professionals are also covered in this paper.

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MARKETING OF LIBRARY AND INFORMATION SERVICES IN UNIVERSITY LIBRARIES: A NEED OF THE HOUR

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ABSTRACT

University libraries invest huge amount on collection development, processing and storage of information resources. These resources, which are so expensive often, remain unutilized resulting in wastage of money, time, energy and space. Marketing provides optimum utilization of information resources. Sometimes users are not aware of their information needs and even if they are aware, they are not keen on fulfilling them. Marketing helps to facilitate need, perception and understanding about the importance of information and thereby creates demand for information. Thus information needs of the users can be better fulfilled and satisfaction level improved. So marketing of information services and products is very essential for optimum utilization of information resources. The paper describes the concept of marketing and its necessity in university libraries. Explains marketing strategies and techniques, role of marketing activities in promoting the utilization of information resources. Suggests that library staff should develop new skills for marketing their products and services. Also suggests that monitoring system is required for assessing the effectiveness of marketing strategies to promote products and services.

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MEASURES OF KNOWLEDGE PREVENTION FROM THEFT AND MUTILATION OF LIBRARY MATERIAL IN SMT. HANSA MEHTA LIBRARY USING CCTV

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ABSTRACT

Knowledge preservation is a concern of the Library and Information Centres from the theft, mutilation or any damage through its clientele. It gives brief account of the security measures available. The present paper gives comprehensive case study of the CCTV in Smt. Hansa Mehta Library as an effective security measure in a given situation.

1 INTRODUCTION

Knowledge explosion is a serious concern of the library profession not only in its organization in the library; but it has also opened up a concept of Knowledge Prevention in library. No library in this world can claim that there is a zero percent theft, mutilation or damage to the reading materials by their own clientele. We cannot revert the clock of our library operation from open access to close access; at the same time we must honour our clientele on one hand and on the other hand, we have to prevent knowledge embodied in document to serve the users of our libraries of today and tomorrow.

The threat to intellectual property through theft and mutilation has posed a tremendous challenge to the library profession worldwide. As a consequence, there is a vast literature with a range of problems concerning library security, with emphasis being placed

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on theft and mutilation. Because this insecurity to the human intellectual heritage is an intractable problem, researchers are always seeking for lasting solutions, but with limited success. Academic libraries have introduced traditional crime prevention measures aimed at curtailing the theft and mutilation or damage to books.

According to Thompson, there was objection to the concept of open access way back in the eighteenth century on the grounds of security. The principal reasons being theft, misplacement of library materials combined with increased wear and tear. (Thompson, 1977)

Various studies revealed that in an academic library, the books which are most related to the undergraduates are frequently stolen. However, no library material is immune from mutilation. Furthermore, if security is poor, then it is likely that clientele will steal. The level of mutilation is a factor of the level and degree of restriction of library material to users.

2 LIBRARY SECURITY FOR ACADEMIC LIBRARIES

Most of the academic libraries in the country face the problem of security such as mutilation, theft, pilferage, vandalism of library materials etc. We intend to focus on the pragmatic security measures effective in place, and the extent of security achieved for library materials

Library security concerns for academic libraries is as follows:

(i) Users resort to delinquent behaviour because demand over-strips the supply of library materials. This results in competition for library items, which invariably tempt users to steal, mutilate or engage in illegal borrowing;

(ii) Pressure to succeed is a prominent sociological factor that influences users, especially students, to steal or mutilate library materials;

(iii) Academic jealousy among the researchers motivate to mutilation of reading materials in a library;

(iv) Library crime is morally wrong. It is shameful for its users who damages library knowingly or unknowingly the knowledge reservoir. Perpetrators feel it justified as it is directed to the library and not to an individual. This thinking is rather unpleasant and unfortunate; and

(v) Financial crunches for acquiring reading material also invite steal/pilferage or mutilation of reading materials.

3 SECURITY AND THEFT

It has been observed that security guards and attenders whose duty is to monitor the movement of users at the exit as the number of such staff varies at the entrance. It ranges between one to two guards at the entrance and exit of the various University libraries in the country and Smt. Hansa Mehta Library is not an exception to it.

The educational qualification of the library attenders/security men ranges from primary-four to the maximum of secondary certificates. Some of the libraries have illiterates as security men. However, no reasons were given for the judgment of the satisfactory performance of the security men/Attenders. Assessment is usually based on sentiments rather than on facts. Efficiency of such an illiterate security service is questionable, more so because they are untrained in security surveillance - a big hindrance to security efficiency. Moreover, the attitude and approach of the security personnel to the library clientele invites unnecessary problems for the library management.

4 SECURITY DEVICES FOR LIBRARIES

There is a need to equip present libraries with a adequate security system for better functioning and monitoring staff to achieve desired results being as a service institution.

Access-control systems in library applications, are used to identify students, faculty and authorized visitors before allowing them to enter the building or, in some cases, in the library grounds. The system lets only authorized people in, often with a minimum of inconvenience. Some of the security devices for libraries are listed below:

(i) Access-control points;
(ii) Intrusion detection and alarm system;
(iii) Video or photo-identification system;
(iv) Video-identification system;
(v) Security-management systems;
(vi) Metal detectors;
(vii) RFID (Radio Frequency Identification); and
(viii) Closed Circuit Television (CCTV) system.

5 SECURITY DEVICES AT SMT. HANSA MEHTA LIBRARY

CCTV is a visual surveillance technology designed for monitoring a variety of environments and activities. CCTV systems entail surveillance camera or cameras, lenses particularly chosen to observe specific areas of the building and the recorder that records what the camera observes. A good closed circuit TV system can make library safer and from theft and mutilation.

Ours is the one of the largest University Library System in the country with more than 22,000 active users right from undergraduates and researchers and teachers and administrative staff. Considering this feature of the Library we studied critically all the aspects of the security options including human security. It would be more appropriate to state that in today's world no security system can claim to have a full proof solution on this planet. Under the circumstances, after a careful considering we arrived on the conclusion keeping in mind the various features which can be met to evolve an effective security system is a CCTV as one of the feasible, more effective solution for our Smt. Hansa Mehta Library.

6 SOME OF THE LATEST TECHNOLOGIES IN CCTV

Advanced technology has brought about large monitors and higher screen resolution to CCTV. The use of color cameras is also on the rise. With its high resolution and low light sensitivity, color-camera technology provides superior identification capability. Advanced digital-communications technology provides library with remote video capability, which allows "live" images from CCTV cameras to be compressed and transmitted to a central station-monitoring center.

CCTV can prove good for monitoring and recovery operations applied to the system. The security assessment and system design process should address issues related to monitoring. It also should address the type and method of image recording, and the desirability of remote monitoring.

7 VIDEO MONITORING AND RECORDING

Basic to the system is a thorough CCTV monitoring and recording capability. A total of 23 Samsung CCTV cameras are located strategically around the various functional areas of Smt. Hansa

Mehta Library, where they help provide a visible deterrent while they gather information. Image quality from the cameras is excellent. As DVR system has a memory capacity of 280 GB, it records 16 cameras round the clock for six days. Accordingly we have identified 16 functional areas of the Library to be recorded in our DVR system out of 23 installed cameras. It has also a facility to copy on a Compact Disc of a particular event with a specific time slot from the DVR system.

8 RECORDING UNIT

Recording is crucial to the value of any CCTV system. Without recording you need to have an employee watching a monitor all times, which is an expensive option. And even if you spot suspicious activity without a video footage, you have nothing to use to find and punish the intruders. VCRs used to be the most common recorders few years ago. However, the introduction of digital video recorders (DVRs), which record onto hard drives instead of tape, has dramatically changed the situation. DVRs offer so many advantages over VCRs that they have rapidly taken over as the closed circuit TV recording solution of choice. On DVR, saved images last longer, one can instantly jump to any point in the recording and they can play and record at the same time. You can even set the DVR to automatically enhance the recording quality when it detects motion.

Smt. Hansa Mehta Library has procured Digital Video Multiplex Recorder 16 channel. It operates with the help of a remote control device having a capacity to record up to 280 GB with an automatic overwrite facility. Thus it records 16 cameras for six days round the clock. It has a CD writer which facilitate to copy a particular event and of a particular time slot of a specific camera or all. This Digital Video Multiplex Recorder is having a facility to make it available all the 16 channels across the intranet on a specific IP i.e. Real IP. It also facilitates to view all the 4/6/9/16 cameras on one screen at a time.

9 DIGITIZED VIDEO OVER IP

The plug and play approach allows IP addressable cameras to be placed anywhere in the infrastructure. Electronics that are already handling IP traffic are now an integral part of the surveillance system. As the videos are stored in a digital format, they can be viewed anywhere on the network with new security capabilities for

the files being administered as part of the network security policies. Further, they can be viewed simultaneously form multiple points on the network. Not only is this easy to deploy, but it is also extremely versatile. Networks are not burdened with another protocol. Transmissions are native to the existing infrastructure, eliminating the need for separate cabling systems.

TCP/IP has become the defacto standard for networking. The open architecture allows for multiple systems to share network space and take advantage of new technology aimed improving the capacity, reliability, to utilize an existing infrastructure a building can become totally automated on one cabling system. This automation can include not only CCTV, but also access and control, fire/life and safety systems, building automation systems, voice and of course, network traffic.

10 INSTILLATION OF CCTV CAMERAS IN SMT. HANSA MEHTA LIBRARY

Before procurement of the various gadgets required for the installation of CCTV, the most important aspect to be considered for the effectiveness of the CCTV for the security of a Library requires a careful critical survey of the various locations in a Library. The success of CCTV in any building is based on the spots where you fix various cameras. This will also help in deciding the specific requirement of a varied camera available for the purpose.

For installation of CCTV camera in Smt. Hansa Mehta Library, being as large library we constituted a committee to assess the number of cameras required and the spots where it is to be installed. Thereafter, we took assistance of the various experts in the field of CCTV to assess the location decided by the committee. After getting an approval for the location for the cameras, we invited three vendors for their pilot demonstration to finalize the type of cameras and the location in the Library where it is to be fixed. After carrying out this exercise we were in position to identify the following 23 locations for the camera and also its type is presented in the following Table-1.

Table-1 Installation of the cameras at various locations at Smt. Hansa Mehta Library

Camera	Location	Surveillance Area
1	Circulation Counter	Entire circulation counter and entry passage
2	Reading Room	South East wing of the Reading Room
3	Reading Room	North East wing of the Reading Room
4	Reading Room	North West wing of the Reading Room
5	Reading Room	South West wing of the Reading Room
6	Reading Room	180° degree moving to cover East to West facing South view of the Reading Room
7	Reference Room East corner	Entire Reference room
8	Stack no. 2	180° degree moving to cover East to West facing North view of the Stack Reading Room
9	Stack no. 2	South East wing
10	Stack no. 1	Counter
11	Stack no. 1	Facing East side
12	Acquisition and Technical Processing Unit – West side	Entire Acquisition and Technical Processing Unit
13	Computer Lab – South west corner	Entire Computer Lab
14	Periodicals Section-West	Display of current journals and aerial view of issue counter at Circulation desk
15	Periodicals Section - East	Covers Reading area of current journals section
16	Entrance – East	Covers the East view of the entry to the Library
17	Office - South	Gives complete view of the office of the Library
18	Stack 1	Gangway of the stack area
19	Stack 2	Gangway of the stack area
20	Ground Floor	Covers entire Registration area at the ground floor and the corridor entry
21	Entrance - West	Covers the West view of the entry to the Library
22	Entrance – South	Covers the South view of the entry to the Library including staff parking, Library garden and entrance for the campus
23	Seminar Room facing North	Covers entire Seminar Room with a facility to transmit on all Display units

With the above setting, these surveillance cameras can record events in entry and exit, parking area, corridors, Reading Room, Stack area, Journal section, Reference Section, Computer Lab., Circulation Desk and behind the curtain sections of the library like Acquisition and Technical Processing Unit & Registration area and in potential trouble spots in the library.

11 DISPLAY UNITS

We have procured eight colour TV monitors out of which two of them 29" and six of them 21" of Philips and LG make respectively to have an impact of CCTV on users and also on the staff to have a feeling that they are being watched and their activities are being recorded. We have installed this eight display units at the following locations

2 display units in the Reading Room to keep aware the users that they are being watched by the Library authorities; 1 at the Entrance to keep alert users at the time of entry in the Library that this Library is having a CCTV as a security device; 1 each in two stacks to watch and monitor the user's activities by the Library staff; 1 each in two Assistant Librarian's Room to watch and monitor the users' and staff activities and 1 in University Librarian's room to have a watch on the complete functioning in the Library.

12 CONCLUSION

Carefully consider how to operate, support and maintain the system day-to-day. Because resources usually are limited, libraries sometimes have a tendency to look for quick-fix solutions. Security does not begin and end with security equipment. It is essential to have the personnel, plans and procedures in place to operate and maintain the system and fulfill the requirements of the security program.

No doubt, that the visible security system like CCTV is having its enormous and effective advantages to the large University Library System like Smt. Hansa Mehta Library; where you have to control and cater effective services to a large quantum of clientele. It also effectively improves the output of the library staff and in all it plays a pivotal role in the smooth and better functioning of the University Library and conveys a feeling among all that, they are being

watched; which ultimately yield better and effective management relief to the Library authority.

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MEASURING THE QUALITY OF COLLEGE AND UNIVERSITY LIBRARY SERVICES

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ABSTRACT

College and university libraries are the supporters of higher education and the quality of higher education imparted in a college or university is decided by the quality of the library attached to it. Recognizing this, the UGC and the NAAC have decided to assess the quality of the learning resource center while assessing higher education institutions. Moreover, the NAAC has issued some guide lines for improving the quality of the learning resource centers in the colleges in the country. This situation has necessitated the library and information professionals working in college and university libraries in the country to have an idea about the measuring tools suitable for assessing the quality of the library and information services offered by them.

Assessing the quality of a learning resource centre is not an easy task. The quality measuring tools used in service marketing field are now started to use in library and information sector. These tools enable the library and information professionals to assess the quality of the facilities, collection, services, tools and techniques used etc. in any library environment. There are tools suitable for measuring the quality of traditional library services, computerised library services, digital library services and web-based library services. This paper is an attempt to introduce various tools for measuring the quality of library and information services offered in the college and university libraries in India. This paper describes various measuring tools like User satisfaction surveys, SERVQUAL, LibQUAL, WebQUAL in detail.

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MODEL INFORMATION TECHNOLOGY ORIENTATION COURSE FOR LIBRARIANS

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ABSTRACT

The paper deals with evolving a comprehensive plan for designing IT Orientation course for academic librarians. It also presents the new roles of academic librarians in 21st century, need and reasons for IT orientation course. Enumerates the components of IT orientation course. Finally, the paper proposes grading system for participants.

1 INTRODUCTION

Librarians today are finding it necessary to provide ever-increasing and varied services to patrons that they never see. Virtual reference in all types of libraries and support of distance education in academic institutions creates a whole new type of library user; the faceless patron. Library foot traffic is declining, but the expectations of libraries and librarians are constantly increasing. With libraries making the move more completely into this virtual environment, librarians are forced to wear many more hats; data miner, researcher, Internet and computer expert, multimedia specialist and webmaster, to name a few. "Librarians undergo constant training as new tools emerge. For many librarians, technological innovation is both stimulating and tiring... as a librarian, you can spend your whole life chasing technology" (Crosby, 2000). Librarians are therefore faced with some public misconception of their jobs, while at the same time they continue struggling to provide the services that patron, employers and the academic community has begun not only to expect, but to *demand* – all of this in an environment of ever-diminishing budgetary resources and library staff.

2 21st CENTURY ACADEMIC LIBRARIAN

The academic librarian of this century must be more dynamic. Their environment has shifted from one that relied heavily on print sources to electronic formats. Because of these changes in the

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academic environment, the librarian must also change his or her focus, become current, and remain current with the information field. The librarian's traditional function as mediator between information and patron will expand and become more diffuse and challenging. Academic librarians have taken on new facets of their job such as webmaster and information architect. Creth (1996) suggests that librarians achieve this by "actively seek(ing) out users in a variety of settings" and by making "full use of information and multimedia technology" by offering instruction in a variety of formats (including Web based instruction and online tutorials)". He should keep his eye and ears open for new developments and transfer the same instantaneously to his user community. He should be a top public relations man and practice all Public Relation (PR) skills in his day-to-day routines. He should love his users and get loved by them. He should be open-minded and keep himself away from egos, which separate him from his user community. He should also be courteous and humane. He must be a good communicator and highly interactive. He should always keep his eyes on e-mails and keep his users informed sooner a query is received. His instantaneous responses should make the users to feel like visiting the library and use its resources.

3 SCOPE OF THE PAPER

The paper is restricted to presenting an effective mechanism for designing and implementation of IT Orientation course for academic librarians, i.e. Assistant Librarians, Deputy Librarians, University Librarians working in Universities and College Librarians.

4 REASONS FOR IT ORIENTATION COURSE

In order to create Internet savvy as well as computer literate academic librarians, to create e-content assemblers and creators, the University Grants Commission (UGC) is launching specially designed orientation programmes/refresher courses in library and information science subject (it is also mandatory for promotion). The special orientation course in IT is to create Internet literate professionals from amongst new entrants as well as in-service librarians and to make them familiar with use of software tools in library and information services viz. library automation, networking and digitization. The following are the few reasons to:

(i) obtain increased operational efficiencies;
(ii) improve the quality, speed and effectiveness of the services;

(iii) improve access to resources on other networks and systems, including the Web;
(iv) provide new services not hitherto possible;
(v) improve the management of their physical and financial resources of the library;
(vi) facilitate wider access to information for their clients;
(vii) facilitate wider dissemination of their information products to and services;
(viii) enable their participation in resource-sharing library networks, and
(ix) enable rapid communication with other libraries (including outreach libraries) and professional peers.

5 OBJECTIVES OF THE IT ORIENTATION COURSE

The course is aimed at achieve the following objectives:

(i) to train the librarians in the advanced skills of information gathering, processing, organization, digitization and retrieval;
(ii) to provide the librarians through understanding of IT applications in information environment including web based library services, library networks and communication systems ;
(iii) to enumerate the applications of CD-ROMs/DVDs to library and information centres;
(iv) to discuss the important CD-ROM/DVD products & databases;
(v) to illustrate the querying and browsing facilities of OPACs;
(vi) to train the librarians in the better searching information in CD-ROM/DVD databases, e-zines, online databases(including UGC-INFONET and other consortia based) and Internet;
(vii) to explain the importance of bibliographic standards, formats, information retrieval protocols and record structures; and
(viii) to encourage librarians to participate and organize the IT based seminars, symposia, workshops, etc.

The training will be totally practical based and all the components of the library automation, networking and digitization are covered. The curriculum for the IT Orientation Course for librarians are grouped in four main components i.e. Library Automation, Networking, Digitization and web based library services with 144 contact hours, i.e., 6 hours daily for 4 weeks. The contents of the model IT orientation course are presented in following sections by week.

6 COURSE CONTENS OF THE MODEL IT ORIENTATION

Day	Week 1	Week 2	Week 3	Week 4
Mon	Inauguration, Computer fundamentals, **OS (DOS, Windows, Linux)**	Commercial/FREE bibliographic databases on internet: theory and search practice, **Full-text databases: theory**	Full-text document conversion (scanning) **Scanning software: OCR, images – Practice**	Internet and copyright issues Current Trends in Hypermedia
	OS (Windows): Installation	**Searching full-text databases on CD-ROM** Searching full-text databases on Internet (UGC-INFONET)	**Internet, services of internet-theory** ***Setting up of a mail address***	Digital Library, standards and tools-Theory
Tue	**OS (Linux): installation**	**Role of UGC in library automation and networking, INFLIBNET Programme**	**Search engines – theory and practice** **Identifying library related info on internet**	Metadata: Standards, Use, Librarian's role-Theory and practice
	Setting up of a LAN	**CDS/ISIS Demo 1: housekeeping**	HTML: purpose, tags, **Making a HTML page using notepad**	Open Archives Initiative – Theory, Demo of existing OAI initiatives on the Internet
Wed	Computer viruses and vaccines, **Downloading and installation of virus protection software**	**WINISIS: database definition** **WINISIS: data entry**	HTML Authoring tools: theory, **Web page designing with authoring tool (FrontPage)**	**Setting up of Digital Library using Open Source Software's (Greenstone, e-print): Demo**
	Health of PCs: general maintenance, backup and information sources for up-gradation, etc **Modern library: Plan strategies, Computers and operator health**	**WINISIS: search and retrieval, outputs**	HTML Authoring tools: theory **Web page designing with authoring tool (FrontPage)** **Hosting of website on free hosting services**	Visit to Automated Library (e.g. Parliament or NASSDOC)

Thu	**Word processing (MS Word, Notepad, WinWord**	**WINISIS: formats WINISIS: import/export, backup, etc**	Making a library server: theory, **Visiting library's websites on internet**	**Evaluation of works of participants**
	Presentation techniques (MS PowerPoint)	Demo 2: ***housekeeping*** **(Commercial)**	Library's web server: What all it can serve Static v/s dynamic information servers	Participants plans for back home: PowerPoint Presentations
Fri	**Spread sheets and Graphics (MS Excel)**	**WINISIS: copying data from other PC on LAN Retrospective conversion of catalogues: methods and strategies**	WEBLIS: Theory, **WEBLIS: Placing a database on server**	Participants plans for back home: PowerPoint Presentations
	Bibliographic database structures, CCF, MARC 21	Developing Electronic Library using WINISIS ***Barcoding**	**Links from WEBLIS to full-text, image resources**	Participants plans for back home: PowerPoint Presentations
Sat	**Commercial bibliographic databases: overview,** Commercial bibliographic databases on CD-ROM: search practice	**Resource sharing and Document delivery,** ***Demo 3: housekeeping (NewGenLib)***	**Reference service using internet [Digital Reference Service]** Discussion lists: theory and membership	**Presentation by Participants** Group Discussion on New Trends in Library Profession RFID Technology
	Presentation by Participants Group Discussion on Bibliographic database structures	**Presentation by Participants** Group Discussion on Library Automation Software Packages	**Presentation by Participants** Group Discussion on Problems in Digitalization and Copyright Issues	Feedback on the course from floor Distribution of certificates and closure, Departures
Sun	Sight seeing tour	Sight seeing tour	Shopping and rest	Departures

Note: **Normal font** = Theory , **Bold font** = practical

7 GRADING SYSTEM FOR PARTICIPANTS

Assessment of the participants on the basis of live projects, weekly seminar presentations, overall practical tests, innovative and creative works. The grade will give to participants by the external experts from the library and information science. The grading system should be as follows:

(i) Grade - A: 75 per cent and above
(ii) Grade - B: 60 per cent to less than 75 per cent
(iii) Grade - C: 50 per cent to less than 60 per cent
(iv) Grade - D: below 50 per cent

Those participants who get **D grade** are required to repeat the same course after a gap of one year without financial commitment to UGC - Academic Staff College.

The total marks are to be fixed at 100 and the division of the same in the following manner:

(i) Live Project – 30 Marks;
(ii) Weekly Seminar Presentations – 40 Marks (10 * 4);
(iii) Overall practical tests – 20 Marks, and
(iv) Innovative & Creative works – 10 Marks.

8 CONCLUSION

The librarian of today must keep more and more on the cutting edge of many areas of technology. Online databases, not to mention Internet sites them, are proliferating in greater numbers; and although they do make one's ability to do research more encompassing, they also create a learning curve that must be continuously reevaluated. If academic librarians are to assist patrons in making the most of these innovations, then the librarians themselves must keep one step or more ahead in their uses and knowledge of the data available with the help of proper IT orientation course.

Like it or not, new technologies are changing the academic librarian's role and the opportunities to enhance one's role have become boundless. "To take the advantage of the opportunities, information professionals must keep up with the emerging technologies, recognize the opportunities to utilize their skill sets, and work effectively for implement change" (Akkamahadevi, 2001). As an old saying goes, "Sometimes failure occurs because we did not know how close we were to success". A true pioneer sees opportunity in every calamity. Therefore, we must never give up the opportunity to make a difference toward our profession. With growing needs and appreciation for the professionals whose hearts are dedicated to "taking care" of their fellow human beings, academic librarianship is and shall always be the jewel in the crown of higher education.

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NEED FOR INFORMATION AND COMMUNICATION TECHNOLOGY TRAINING FOR LIBRARY PROFESSIONALS

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ABSTRACT

The paper describes Information and Communication Technology (ICT) as a tool, which has developed with the help of a set of technologies. It opines that ITC has a great role in Library and Information Centres and Library and Information Science Education (LISE). For its extensive use in Library and Information Centres librarians should have the basic concept and skill of ITC to handle the changed working situation in libraries. Paper emphasizes the need for proper training programme on ITC, which could extend the basic knowledge and skill of library professionals. It has identified major areas or aspects on ITC for Librarians. Training methods for library professionals and some training resources are also identified in this paper. Training multiplier effect actually applies in large-scale industry or high technological sector may be applicable to library field for training purposes. The paper sketches the Training Multiplier Effect model for the library. It concludes that handling of Library Consortium, Education and Research Portal, EDU-SAT programmes that are completely new to Library and Information Science field train is essential for the library managers and professionals.

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OPEN INDEX INITIATIVE: A COOPERATIVE EFFORT TO DEVELOP AN ONLINE DATABASE FOR INDIAN SOCIAL SCIENCE LITERATURE

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ABSTRACT

The paper, a case study, discusses the cooperative effort to develop an online database consisting of index and abstract to articles, book reviews and conference papers published in Indian social science journals. This cooperative effort named as Open Index Initiative (OII) has derived inspiration from two online databases, RePEc (Research Papers in Economics) and DoIS (Documents in Information Science). The OII model developed on participatory approach of the World Bank, depends on library and information professionals (LIS professionals) and libraries to contribute data themselves. It offers suggestions to improve the system to monitor and evaluate the results themselves and allows mirroring the compilation at their sites for non-commercial activities.

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PROBLEMS AND ISSUES IN DESIGNING OF HYPERMEDIA FOR LEARNING

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ABSTRACT

The paper explores the changing environment that will come with the advance of globalization and the rapid development of the Internet. Hypermedia is presented as a further development of hypertext. There is a lot of evidence to support the claim that hypermedia systems can really support alternative and superior models of learning. As computers have moved from being able to present little more than uppercase text to being able to present information in a variety of communication media-sound, graphics, video, animations etc, It is possible to link these media together using a hypertext techniques for the development of hypermedia products for life long learning. Based on literary reviews this paper identifies the problems and issues in developing the hypermedia and presents a vision and a paradigm.

1 INTRODUCTION

Application of information and communication technologies to teaching dates back many decades. Computer can be a valuable tool in the educational effort. The pervasive use of computers is opening new frontiers in the educational arena: online tutorials and hypermedia applications are changing teaching strategies and creating new forms of interaction between students and teachers. In this context, the World Wide Web plays the role of a universal medium where all these activities can take place.

Hypermedia enables a change in relationship between human and the computer. Instead of being shoehorned into the closed and sequential world of the computer we can use the computer as an extension of ourselves to augment our existing capabilities. Instead of the user being a passive component of the computer system the system becomes a tool for the active user, a more open concept the potential of which is limited only by technological constraints and the imagination of users.

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2 DESIGN CONSIDERATIONS FOR HYPERMEDIA

In recent years, the role of networked, interactive hypermedia has become increasingly important in educational and training settings. Coupled with the recent growth of the Internet, educational hypermedia is becoming a desktop reality. And, as argued by many throughout the educational community, it clearly affords educational benefits. However, it would be naive to assume that simply providing greater access to information leads to better learning and, hence, education.

Due to its versatility, hypermedia applications are one of the most promising tools in the educational field. At its most basic level, these applications allow educators to make explicit a double organization. The first is based on the logic structure of the informational contents of the application. The second permits educators to make explicit the semantic relationships between basic units of content (or knowledge). This basic organization can be used to guide students through an information space, and its exploration can be (more or less) controlled accordingly to predefined, or dynamically generated, patterns. This conception of information organization fits well with those tasks in which the user requires an intense understanding and learning.

Textbooks are typically designed with a distinct order of topics, and the level of difficulty increases as student's progress through material. Thus, students with some relevant background can tell how much they can skip to get to the unfamiliar subjects. In hypertext systems, however, the concept of order is reduced. When building interactive systems targeted for educational settings, designers must address important issues in how novices can gain access into a potentially large database of interconnected types of media. In particular, designers need to address the kinds of indices that support access and learning in media-rich environments. In the short history of educational multimedia systems, some research has been conducted into how people actually use such systems, what kinds of usage improves learning and under what conditions, and what types of educational materials such systems should provide.

Instead, designers of educational multimedia require strong theories to help guide, their design and implementation. These design theories need to be informed by an understanding of learning and reasoning within computational environments. In particular, designers need advice on the best ways to organize, present, and index multimedia information to maximize effective learning and knowledge construction by students.

2.1 Design Components

Design components for a hypermedia document include: *presentation* elements that refer to the way the content is displayed (e.g. colour, music, image) and *functional* elements that refer to what the user can do (e.g. search engines and quizzes). Material can be structured using hypermedia to mimic human thought processes, facilitating natural and efficient information retrieval. Hyperlinks can also be provided with access to other online resources. Asynchronous communication systems provide the opportunity to share information, discuss material, decrease isolation and increase support during learning thereby sustaining an online community. These components have the capability to increase the educational value of multimedia learning.

Hyper mediated document can empower the learner as they take control and responsibility for their learning. It is self-paced; learners can skip material they know and study at a convenient time, thus improving motivation. Improved collaboration between learners and tutors is facilitated as students can be linked around the world in interactive exercises. Designing an e-learning course that considers the learning styles of students improves student response to the material. Unfortunately, courses often reflect the learning styles of the designers, rather than that of the target learners.

3 ADVANTAGE OF HYPERMEDIA IN LEARNING

(i) More knowledge can be made available to students, in more accessible forms; hyper-linking knowledge bases can allow unparalleled opportunities to explore and organize bodies of information. Learners can be provided with unprecedented facilities for storing information and reviewing what has been learned.

(ii) Teaching productivity can be increased, and good teaching made more affordable. Learning productivity can also be increased, and studying therefore made cheaper.

(iii) The best pedagogical practices can be shared more widely among teachers via media, and in principle can be embodied in ICT devices.

(iv) Positive reinforcement for students (and teachers) can be provided more effectively and efficiently, stimulating more interest in learning (and teaching).

(v) The educational process can be made more asynchronous, allowing people to learn when they choose; distance can be spanned, allowing people to learn where they choose.

(vi) Learning may become more of an "on demand" process, and as such more motivated; efforts to learn materials never to be used can be reduced. Skills that once required long practice for mastery can be transferred from man to automated device; the training in those skills than can be reduced in or removed from the curriculum and the time saved used to provide new learning opportunities.

(vii) Rare events or conditions can be seen on film or in recreation, and compared one with another. Indeed, virtual reality offers the possibility of unparalleled immediacy of experience among large groups.

(viii) Group learning processes can be facilitated made more asynchronous and less dependent of co-location of the members of the group. Best practices in group learning can be shared more widely.

4 HYPERMEDIA: PROBLEMS AND ISSUES

(i) Contents for the readers can come from a variety of on-line sources such as novels, journals, newspapers, magazines, and manuals. Unfortunately the number of printed books, especially textbooks, in electronic format is relatively low. On-line books currently consist mostly of works whose copyrights have expired. Project Gutenberg has been collecting thousands of out-of-copyright titles since 1971 and offering them to the public for free.

(ii) Hyper Books that are produced and stored electronically rather than in print are the result of electronic publishing (e-publishing). From a financial point of view, e- publishing eliminates printing, binding, storage and transportation costs. Nevertheless, it is probably just as costly (or more costly) to employ highly skilled editorial and technical staff (such as graphic artists, audio and video specialists,

animators, etc.) to prepare data for electronic publication as it is for paper-based publication.

(iii) The e-publishing process closely resembles traditional print publishing and goes through similar stages:

a) Manuscripts are evaluated (for new books) or acquired (if paper versions exist);

b) If a book is marketable, contracts are signed;

c) Content editors edit the manuscript for better quality;

d) Manuscripts are proof-read;

e) Final edited manuscripts are processed (i.e. hyper books are created) and saved in various formats;

f) Book is stored and delivered on suitable media.

In the e-publishing process, stage 5 entails further phases, which are adopted from the software development life cycle to provide the hyper books with an appropriate user interface and content presentation. The phases involved in stage 5 depend greatly on the type of content to be produced and their purposes. The contents can be in any of the following form:

a) any one medium (for example fully textual, only graphics content, or only audio content); and

b) multimedia or hypermedia (i.e. mixing more than two media).

The Hypermedia has many limitations. They are as follows,

(i) The only type of communication allowed is client-initiated client-server communication. That implies that feed through, user notification and feedback are limited.

(ii) Poor user interface, only simple widgets available.

(iii) No guaranteed Quality of Service. That means that transmission rates between servers and clients are not guaranteed. Under these conditions it is difficult to provide necessary quality for video and audio conferencing and for multimedia applications.

(iv) Centralized architecture. No support for distribution and replication is provided, which may affect performance for multimedia applications that demand powerful resources.

Each category can be used in education (e.g. textbooks), as reference (e.g. dictionaries), leisure (e.g. novels, comics), browsing (e.g. newspapers) and advertisement (e.g. brochures). If producing hyper book for learning purpose, its development process should also consider instructional design (a systematic approach to designing instructional materials to achieve specified learning objectives) concept and accommodate a wide range of different learning styles.

5 CONCLUSION

The infrastructure for hyper mediated learning is everywhere - on hand held devices, in kiosks, at home and work. Imagination and innovation will soon produce a support structure that can follow one throughout a life-long learning journey. Hypermedia holds great potential to help those seeking to achieve universal primary education and universal literacy in the near future. It also seems likely that development of appropriate policies and strengthening appropriate institutions can foster such progress, and can help avoid some of the negative consequences to which education in developing countries is vulnerable. Action is needed at all levels.

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ROLE OF ANCA LIBRARY IN PROMOTING COMPUTERIZED INFORMATION LITERACY IN USERS: A STUDY

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ABSTRACT

Anand Niketan College of Agriculture Library has been computerized to provide better services to the agricultural users but it is necessary to have with users the information handling and literacy skills to access the essential required information. Considering this the library has surveyed the user's skills for operating and accessing the computer based information and accordingly the method of training programme was and the same was successful and ultimately the use of library was increased. This paper discusses the concept of information literacy and its need for providing the efficient library service's Presents the finding of a user survey done on the students, staff and agricultural scientists of the Anand Niketan College of Agriculture Library.

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ROLE OF DIGITAL LIBRARY IN MODERN SOCIETY

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ABSTRACT

Today digital libraries are playing a vital role for disseminating of information in modern society. There are several activities which are organized by the people for their daily needs. To perform these activities and organizing their daily tasks several institutions and organizations are founded. The paper deals with the concept of digital library, need, components. Discusses the need of user education in digital era.

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ROLE OF INFLIBNET: WITH SPECIAL REFERENCE TO MANIPUR

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ABSTRACT

College and University faculties are usually held in high esteem amongst the intellectual and elite community. They are the one who has to always keep updating knowledge in their specialized field as well as other related areas. It is through them that the future generations are going to be brought out. For their information needs they have to step into a Library to satisfy his/her needs. But due to the revolution in the growth of information which has been increasing at a phenomenon speed, no library are able to afford buying every book and journal and store all that is published. The paper examines the various services provided by INFLIBNET and its contributions.

In this paper the accessing pattern of the teaching community of Government College and Manipur University faculties is taken into account to highlight the impact of services provided by INFLIBNET and UGC-INFONET. The findings of the study are also brought to light along with suggestions for improvement.

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ROLE OF INTERNATIONAL AGRICULTURE LIBRARY NETWORKS: WITH SPECIAL REFERENCE TO DIGITAL INFORMATION RESOURCES AND SERVICE THROUGH INTERNET

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ABSTRACT

In the modern era of the fast changing world the process, procedures are also changed. The activities in the Library the way in which the data are being handled and provided to the users are also changed. It is commonplace to say that we living in an age of information. Life is no longer physically hard, that is, confusing. Filling our needs, from the most basic to the most sophisticated, is information dependent. Survival is not so much a matter of doing (growing, hunting or catching food, building shelter, making cloths) as of knowing (how to get a job, what kind of education to pursue, how to apply for benefits, where to get help).

The paper is an attempt has been made to find out the need for the resource sharing in agricultural library and information centres. The agricultural libraries should effectively utilize use of information technology library management for providing value added information services to the users. Discusses some of the crucial issues concerning success of agricultural library networks such as developing information infrastructure and formulation of information policy at the international and national level.

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ROLE OF THE ACADEMIC LIBRARIES IN THE DIGITAL AGE: RETHINKING TOWARDS PLACE TO SPACE

Ramesha*

ABSTRACT

Libraries are still far from the day when students, researchers, and teachers can access entire research collections from their desktops. Nonetheless, a wealth of high quality materials is now accessible electronically. What does this revolutionary change mean for the creation and design of library space? What is the role of a library when it no longer needs to be a warehouse of books and when users can obtain information without setting foot in its doors? Few libraries have failed to consider these questions-whether they serve their collections electronically or physically, whether they ser the general public or more specialized academic users. This paper is intended to stimulate thinking about the role of the library in the digital age, about the potential and the imperative for libraries to meet new needs, and about how these needs will influence the design of physical space.

The paper examines the present role of academic libraries in digital age and its future alternatives and paths offered by the Internet.

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STUDY OF WEBSITES OF LIBRARY AND INFORMATION NETWORKS IN INDIA

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ABSTRACT

A Library network is broadly described as a group of Libraries coming together with some agreement of understanding to half each other with a view to satisfying the information needs of their clientele and information network as a set of interrelated information systems associated with communication facilities which are co-operating through more or less formal agreement in order to implement.

The paper deals with websites of Library and Information Networks in India. The home pages of these networks were studied by using selected study criteria like contact details, authority, hyperlinks, content coverage, ease of navigation, databases and E-journals in the websites.

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SUBJECT GATEWAYS: A ROUTE TO QUALITY CONTROLLED INERNET RESOURCES

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ABSTRACT

Large amount of information is continuously being available on the Internet. Due to information overload the users are finding it difficult to access the information, which has resulted in designation of several tools to help the users to overcome the problem of information overload. Subject gateways are one of such tools designed for a specific user group. Subject gateways are increasing in popularity. Their design is a combined effort of the subject expert and the library and information professionals. This paper attempts at describing the Subject Gateways, their content determination, metadata issues, quality resource selection and interoperability issues. It also includes the description of the efforts being planned at Gandhi Smriti Library of Lal Bahadur Shastri National Academy of Administration (LBSNAA), Mussoorie, for creating a gateway to digitized collections and Internet resources on the core subjects falling within the preview of the institutional needs.

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THE CHANGING FACE OF LIBRARIES

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ABSTRACT

The user of the library of the future need not be a person. The user may be another knowledge system; that is, any intelligent agent with a need of knowledge. Thus the library of the future will be a network of knowledge systems in which the people and machines collaborate. In this paper an attempt has been made to discuss the changing phase of libraries with special reference to digital libraries and the role of librarian in this digital environment.

Gone are the days when libraries ware storehouses of books. Information technology has changed the complexion of today library in a big way with the current thrust on universal education, with the development of automation & computing and knowledge society libraries have evolved to become information provider rather then mere document provider. The Internet explosion has opened up electronic information to the masses. Recent developments in the field of information technology contribute significantly to improve the services of libraries. The impact of information technology has led to a paperless society; .It may not wrong to say that everyone associated with the management of knowledge in the coming days would be taking about the digital libraries with the availability of computer capable of computing at very high speed and having large disc storage space. It is possible to digitize and store information in the form of high quality graphic, color, images, voice signal and video clips at a relatively affordable cost.

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USAGE IMPACT OF E-RESOURCES OF THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA WITH SPECIAL REFERENCE TO E-JOURNALS – A BIRD'S EYE VIEW

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ABSTRACT

Considering the impact of IT and ICT, E-Resources are found supplements and compliments to Library resources. E-Journals valued to the research activity have accelerated usage of the research material in academic libraries. The present study focuses on the usage impact of E-Resources on the campus of The Maharaja Sayajirao University of Baroda.

1 INTRODUCTION

Advent of Information and Communication Technology (ICT) have revolutionized the human activity. To exploit optimum available infrastructure on the campus, the University Library System of the Maharaja Sayajirao University of Baroda has also initiated in making available various e-resources with its in-house exponent. Smt. Hansa Mehta Library has also initiated to train its clientele from print sources to electronic resources. This is the first study made in this regard.

The University Library of The Maharaja Sayajirao University of Baroda was established on 1st May 1950 with a core collection of 25,000 books belonging to the two State Libraries (Huzur Political Office and Secretariat Library). University Library System comprises of the main University Library i.e. Smt. Hansa Mehta Library at its apex and 14 constituent Libraries having a collection of almost 7.5 lakh documents, more than 1100 print journals in at least 85 subject areas. Library caters to the need of more than 22,000 active users comprising of

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teachers, research scholars, postgraduates and undergraduates too.

2 E-RESOURCES AVAILABLE AT SMT. HANSA MEHTA LIBRARY

Information and communications technology has a major impact on materials for research. It is changing the shape both of primary resources like texts, images and data and secondary resources like indexing, abstracts etc. Now web based electronic resources have become most popular tools for academic research. It is because e-resources are an up-to-date source of information and they can be accessed from any computer, which is connected to the campus network and the Internet. Besides these e-resources support - searching capabilities, timely access and other unique features like links to related items, reference linking etc.

2.1 E-Resources subscribed in Smt. Hansa Mehta Library

(a) Business Source Premier (Full text online databases of EBSCO);

(b) Academic Search Premier (Full text online databases of EBSCO);

(c) Wilson Social Science Abstracts (1984-2000);

(d) EconLit ;

(e) ERIC (1966-1998);

(f) CABSAC (1973-1997) ;

(g) IBID (1993-1999): India Business Insight Database

(h) PROWESS (1994-2004), and

(i) Capitaline Plus.

Dual Facility - Offline installation in the LAN server, combined with a single online (net) access to the databases. Facilitates to In-built tool to modify the actual data in a modified format, available under different screens to obtain growth indexes. Company-wise price comparison chart. History tab records every page visited for a pre-determined number of days, which can be set in the 'Settings' menu. User can browse sites, inside CapitaLine Plus application. Export to PDFs/HTML/ Excel formats in a single click

2.2 Open Source

We have made available on our web page about 2000 full text journals link (Appendix -1) and useful URLs (Appendix- 2) to have readily available information to the users to satisfy their varied needs.

2.3 E-Resources through INDEST Consortium

INDEST Consortium, Indian National Digital Library in Engineering Science and Technology, has been established by the Ministry of Human Resources Development (MHRD), Government of India. MHRD provides funds required for providing differential access to electronic resources subscribed for the consortium to the core members, this ambitious initiative and its benefits are not only confined to its core member institutes but also being extended to all educational institutions under its open-ended propositions. Under INDEST consortium online access is provided to IEEE/IEE Electronic Library (IEL), ASCE and ASME to our University.

2.4 E-Resources under UGC-INFONET Consortium

UGC has initiated the UGC-INFONET: E-journal consortium. Under the consortium, about 4000 full text scholarly electronic journals from 25 publishers across the globe can be accessed. The consortium provides current as well as archival access to core and peer-reviewed journals in different disciplines. It includes online e-resources viz. Bibliographic and full text databases and also gateway portals are presented in Table -1 to 3.

Table 1 Bibliographic Databases

Biological Abstracts (From 1969 +	http://web5s.silverplatter.com/webspirs/start.ws?
Mathscinet (AMS) (From 1940 +	http://web5s.silverplatter.com/webspirs/start.ws?
Chemical Abstracts Service	http://stnweb.cas.org/ (presently not available to our university)
Royal Society of Chemistry (6 Database)	http://www.rsc.org/

Table 2 Full Text Databases

Name of Journal (Nos. of Journals)	URL
American Chemical Society (31)	http://www.pubs.acs.org/
American Institute of Physics (18)	http://www.aip.org/
American Physical Society (10)	http://www.aps.org/
Annual Reviews (29)	http://arjournals.annualreviews.org
Cambridge University Press (189)	http://journals.cambridge.org/
Elsevier Science (34)	http://www.sciencedirect.com/
Emerald (28)	http://www.emeraldinsight.com
Encyclopedia Britannica	http://search.eb.com/
Institute of Physics (36)	http://www.iop.org/EJ
J-STOR (457)	http://www.jstor.org/
Nature (1)	http://www.nature.com/
Portland Press (4)	http://www.portlandpress.com/pp/default.htm
Project Muse (222)	http://muse.jhu.edu/journals
Royal Society of Chemistry (23)	http://www.rsc.org/
Science Online (1)	http://www.scienceonline.org/
Springer & Kluwer Journals (1217)	http://www.springerlink.com/
Blackwell (489)	http://www.blackwell-synergy.com/
Taylor and Francis (1105)	http://journalsonline.tandf.co.uk

Table 3 GATEWAY PORTAL

J-Gate Gateway Portal (15000)	http://www.j-gate.informindia.co.in/

These E–resources are IP base; hence they are accessible not only in the university library but also across the campus on more than 1600 node.

3 EVALUATION OF USAGE OF E-RESOURCES AVAILABLE UNDER UGC-INFONET CONSORTIA

Internet is widely used in all walks of life. E-resources are increasingly used in the modern academic libraries. E-resources have special value in today's information age. There are many E-resources published electronically and disseminated. Under UGC-Infonet the University Grant Commission spend huge amount on accessing the electronic resources and disseminating them to academic community. Hence, it is very legitimate on the part of the librarians to know whether these electronic journals are being uses by the academic community. Being in a library profession, our moral duty to see that the maximum information should be disseminated among the academic community for the enhancement of their study and research work. Table 4 presents the cumulative download at M.S. University of Baroda.

Table 4 Cumulative download at M.S. University of Baroda

Year 2004	Elsevier (34 titles)	Springer – Kluwer (1217 titles)	Cambridge (189 titles)
January	9724	-	6
February	14794	-	6
March	17125	-	10
April	19881	366	59
May	26085	695	73
June	26490	967	87
July	26813	1170	107
August	27558	1414	114
September	27990	1681	114
October	28529	2169	114
November	29320	2771	114
December	29521	3179	114
Average	**2460**	**353**	**14**

The following Fig. 1 shows the usage of science and technology journals by publisher wise.

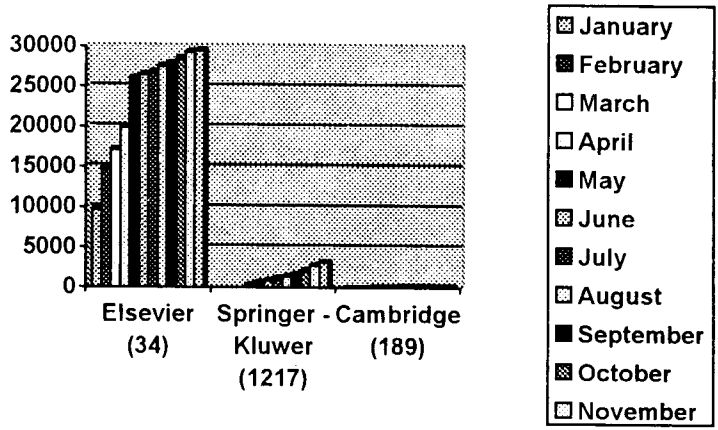


Fig. 1 Usage of science and technology journals by publisher wise

The above figure reveal that the usage in the science and technology journal (of Elsevier) if it is available in electronic format having an optimum usage to as compared to same title available in a print form at the Smt. Hansa Mehta Library. On the other hand the journals belonging to Social Sciences, mainly of Springer and Kluwer are being not used as compared to Science and Technology in electronic format on the campus. The situation regarding the e-Journals download in the field of Humanities is a pathetic in context to the 189 journals subscribed in electronic format.

The total download in the field of Science and Technology is 29,521 and average download per month is 2460 of only 34 journals reveals that the researchers belonging to Science and Technology are having some knowledge about the usage of the e-journals and they exploit optimum. If we divide 29,521 total downloads by 12 months is on an average is 2,460 and per journal it would be around 72 downloads. So the environment about the adaptability of ICT among the Scientists having higher ratio as compared to Social Scientists and Humanists. Though the number of journals in an electronic format are available on the campus is comparatively much higher than the Science. This also indicates the area of further research about the causes of non-use of available e-resources in the field of Social Sciences and Humanities.

It is crystal clear that in all the three disciplines viz. Science and Technology, Social Sciences and Humanities, the total download has been accelerated during the months of May and

download has been accelerated during the months of May and June 2004. It is interesting to note that as it is the first year of the access of e-journals on the campus it has given an encouraging result need to rethink for the print journal on the campus.

4 DEVICE TO MEASURE USAGE OF E-RESOURCES ON CAMPUS

It has been observed that while making available enormous e-resources on our campus to prevent any misuse an also to have a more comprehensive data about who uses what and what is being more in demand etc. need to be periodically assessed to take suitable decision in the enhancement of moving towards e-resources. To achieve this we are in process of introducing authentification by way using our 12 digits SOUL membership code as the validation to have access to the Internet on the campus.

If this 12 digit membership code be accepted by the publishers cover under INDEST or UGC-Info net programme will be in a position to help in a keeping more comprehensive data on the usage of the various e-resources at the specific IP address.

INFLIBNET need to have some evolve the above mechanism to have a comprehensive data on the true usage of the academic fraternity in the universities in the country as the national resources are being utilize to cater the academic and research need of the universities in the country. We must have our accountability on the true usage of the funds made available to us in persuasion of our professional excellence.

5 OBSERVATION AND SUGGESTIONS

a) A good infrastructure has encouraged the usage of e-resources on the campus.

b) The usage of e-resources by the pure scientists is found quite satisfactory.

c) The social scientists and Humanists need to be trained to access e-resources and educate them the facilities and benefits available with electronic format as compared to print form.

d) There is also an imbalance about the IT infrastructure available at the various departments especially among the Departments of Social Sciences and Humanities.

e) The usage of Electronic journals is found greater in the departments where the IT infrastructure is easily accessible. To enhance the usage of e-resources, the infrastructure at the various departments need to be improved to access intranet.

f) It has been observed that with this speed, the University Library System is moving towards the maximum access of e-resources and the development of ICT gadgets in-house, various Departments on the campus have failed to keep pace with the changing environment.

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USE OF ICT IN RURAL INDIA: A CASE STUDY OF KISHAN CALL CENTER

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ABSTRACT

Information and communication Technologies (ICTs) are becoming the engines of human and economic development. The growth of information technology and its impact on all parts of the world from individual households to organizational and economical political and societal levels is imminent. In India, 30% people live below the poverty line. This means that these people have no proper electricity, no proper drinking water supply, no proper sanitary facilities and there were over 40% are illiterates. More than 65% live in the alienated rural areas and 60% earn their livelihood from agriculture. More than this, as 70% of India population resident in rural areas, the connecting the rural people by the use ICT has been the major challenge today.

A Kisan Call Center is a synthesis of two hitherto separate technological namely the Information and Communication Technology (ICT) and the Agricultural Technology. Both have their specialized domains and work cultures. The successful functioning of call centers, there is a need to monitor and review the various activities of the KCCs by the Nodal institutions on regular basis.

The paper examines different ICT projects and describes the role of kisan call centers for information by farmers of rural India.

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USE OF ONLINE RESOURCES IN THE CENTRAL LIBRARY, BANARAS HINDU UNIVERSITY THROUGH LIBRARY CONSORTIUM

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ABSTRACT

The paper examines the use of online resources of UGC-INFONET and INDEST consortia in the Central Library, Banaras Hindu University, Varanasi. Concludes with the comparison of print and online journals.

1 INTRODUCTION

A library consortium is a group of two or more libraries that have agreed to cooperate with each other in order to fulfill certain similar needs; library consortia will have the daunting task of overcoming geographical barrier and ensuring availability of information resources in a form and media that quenches the user's thirst for information.

In the Central Library, Banaras Hindu University (BHU), two-library consortiums are facilitating access to the online resources i:e. UGC-INFONET and INDEST consortia with the cooperation of the UGC and Ministry of Human Resource & Development.

2 NEED FOR THE STUDY

The useful resources such as journals are available online through Internet today. So it is necessary to participate in the programme of library consortia. There are so many more reasons working behind this concept as follows:

(i) To encourage the maximum use of journals;

(ii) To solve the problems of acquiring the online journals;

(iii) To purchase costly journals on discount in order to minimize the financial burden;

(iv) To minimize the problem of inadequate storage area and competent staff;

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(v) To satisfy the increased user demand;

(vi) To face the challenges of ever increasing prices of print subscription of journals;

(vii) In order to cope with shrinkage of library budgets; and

(viii) Users can retrieve additional information, relevant to their topic.

3 OBJECTIVES OF THE STUDY

In order to analyze the importance of library consortia for the libraries, the following objectives are framed:

(i) To examine the number of users accessing online resources per month;

(ii) To find out the list of online databases available through both consortium i.e. UGC-INFONET & INDEST consortia;

(iii) Which database do the users use frequently; and

(iv) How much budget is being spent on this online database in comparison to print version.

4 METHODOLOGY

The data was collected from the records of Periodical Section and the Internet Section of Central Library, B.H.U. The important records included users' register; payment register and interaction with staff. The study is based on the data collected for the six months i.e. April 05 to Sept. 05.

5 ANALYSIS OF DATA

The following analysis was done on the basis of the collected data. Table-1 through 3 presents the use of online resources available on consortia basis in central library, BHU, Varanasi as follows:

Table – 1 Category and number of users accessing database per month

Category	April	May	June	July	Aug.	Sept.
Research Scholars	55	110	105	227	110	171
Teachers	10	8	61	100	4	5

The above table depicts that the number of users are increasing per month and in the month of July, there were more number of users accessing the online databases and the number of research scholars were more than the teachers.

The possible reason is that the teachers having the facility of Internet in the departments also and secondly more number of outside researchers are coming from different districts closer to Varanasi such as Allahabad, Ghazipur and Jaunpur etc.

Table – 2 Database used frequently by the user

Sl. No.	Name of Databases/Online Journals used	No of users accessing the online journals (between April to Sept.)
1.	Elsevier Science Direct	992
2.	Science Finder	320
3.	Biological Abstracts	102
4.	Project Muse	90
5.	Institute of Physics	44
6.	Royal Society of Chemistry	42
7.	Emerald full text	36
8.	Others	105
	Total	1254

The table-2 reveals that *ScienceDirect* is in more demand and user's are making use of more this database than other databases. The Central Library, BHU subscribes to *ScienceDirect* covering only four subject fields such as Chemical

Engineering, Energy, Computer Science and Environmental Science. This database provides full text e-resources with reference links and provides their services through

INDEST consortium. The increasing demand of *ScienceDirect* is because of the speed, concept based search and download facility which are available in the Central Library.

After the above database, users are accessing the *Science Finder* mostly, which provide their services in the field of Chemistry. This is a bibliographical database and provides the services of *Chemical Abstracts,* which is available from 1907-till date. This BHU has single user license so the University has fixed time limit for four libraries of the University-departments of Physics, Applied Physics, Metallurgy, Material Science and Central Library. Central Library provides online access to *Science Finder* for the maximum time from 11 a m to 5 p m. Mostly the research scholars and teachers in the field of Biology use *Biological Abstract* whereas *Project Muse* offers the online access to 222 full text journals in the field of Social Science and Humanities which is also in demand by Research scholars In the field of Social Science.

Institute of Physics offers online-databases useful for the students of Physical Sciences. The students from the Department of Chemistry, Chemical Engineering, use the database of the *Royal Society of Chemistry.* Although very few users are using this database.

At last *Emerald full text in the field of Library & information science* fulfills the needs of researchers and provides easy access to journals, which are not acquired by the Central library. But Emerald full texts do not provide access to much older back volumes of the journals covered by it. It seems that the journals have their half-life and their use become obsolete after five or ten years.

Table-3 Budget spent on the online databases in comparison to print subscription

Sl.No.	Resources	List Price in Rs.	Consortium Price in Rs.	Discount
1.	ASCE Journals	4,43,000	1,78,200	59.77%
2.	ASME Journals	2,85,300	1,65,000	42.16%
3.	IEL Online	52,99,750	12,67,900	76.07%

The third and last analysis provides the subscription of online version through consortium in comparison to the print version. The databases mentioned in table4 are accessed from the IT, library, BHU subscribed through INDEST consortium. The above table

depicts that the prices of the journals subscribed through the consortium are much less than the one subscribed directly through the publishers. The consortium prices are not available with the University in the case of UGC-INFONET. The Central Library is currently subscribing Elsevier Science Direct from its own funds directly from the publisher.

Around forty journals offer free online access against print subscription. These numbers can vary from time to time because publishers offer this facility for promoting their services. Since, the Ministry of Human Resource Development and UGC both are funding the libraries of Banaras Hindu University so the financial burden is less in comparison to print version.

6 CONCLUSION

It is very important that the library managers take the necessary steps in paving the way towards the creation of digital library, which has to take place very fast because of the knowledge explosion, and increasing thrust for accessing the information day to day. Keeping this in view, the Central Library, Banaras Hindu University is trying hard in fulfilling the user needs with minimum of financial burden. The Central Library takes maximum advantage of consortia in serving the patrons.

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USE OF PUBLIC LIBRARY RESOURCES BY HOUSEWIVES: A CASE STUDY

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ABSTRACT

In this paper an attempt has been made to elicit opinions from the housewives as the users of Public Library in general and City Central Library in particular. A questionnaire method is used to identify the impression of housewives towards the adequacy of library resources and services utilized by the housewives. Finally it highlights the major findings of the study and offers some important suggestions for the overall improvement of the library.

1 INTRODUCTION

The public library is a product of modern democracy and a practical demonstration of democracy's faith in universal education as a life-long process. Though primarily intended to serve the educational needs of adults, the public library should also supplement the work of the schools in developing the reading tastes of children and young people, helping them to become adults who can use books with appreciation and profit. As a democratic institution, operated by the people for the people, the public library should be:

(i) Established and maintained under clear authority of law.
(ii) Supported wholly or mainly from public funds.
(iii) Open for free use on equal terms to all members of the community, regardless of occupation, creed, and class or race (UNESCO Public Library Manifesto, 1949).

According to Murison (1971), "The school and the library are the two legs upon which the body politic stands, one exists to start

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education and other continues it". Traditionally the public library has been an open access institution carrying out its historic mission as a multi-purpose agency providing educational, recreational, cultural and informational services both to individuals and to groups. It is still fulfilling this function. But within the last decade, social, economic, political and technological pressures and developments raised the questions about the nature and the role of Public Library in society.

Public library service covers a wide spectrum of clientele; it includes children, students, teachers, research scholars, businessmen, professionals, housewives, retired persons, neo-literates, etc. The user community in the present study is housewives, to study in detail their educational attainments, interests, cultural background and mainly the use of public library resources by them. Hence, there is a need to acquaint how the housewives utilize the library resources and services. The study is thus undertaken to assess the ways and means of providing improved services to housewives.

2 CITY CENTRAL LIBRARY, HUBLI-DHARWAD: A PROFILE

Karnataka Public Library Act, 1st April 1966 and as per the notification issued by the Karnataka Government, the City Library Authority for the City of Hubli-Dharwad came into being on 5th October 1966. According to the provisions given in the section 16 (1) of the Karnataka Public Libraries Act 1965, the City Library Authority was constituted. According to the provisions made in the act, City Central Library was established at Dharwad for the city of Hubli-Dharwad in 1968. City Central Library is located more appropriately to the widely accepted belief in the public library should be situated in the heart of the city. Since its inception City Central Library has made a commendable progress in spreading of the cause of the library through establishing twenty two branches and Seventeen Service centres in different parts of Hubli-Dharwad corporation area.

At present the City Central Library Hubli-Dharwad provides the services to more than 10, 00, 000 population of twin cities with 5, 68,000 books and 1,300 daily newspapers, magazines and periodicals. It has around 35, 000 registered borrowers and everyday more than 10, 000 people visit and use the books, periodicals newspapers etc. in different branches of Hubli-Dharwad.

3 OBJECTIVES OF THE STUDY

The main objective of the study is to investigate the use of public library resources by housewives. Other objectives are;

(i) To know the frequency of visit to the library;
(ii) To study the various purposes of using the library by housewives;
(iii) To study the attitudes of housewives towards public library resources and services; and
(iv) To suggest the ways and means for the improvements of the library, its collection and services.

4 METHODOLOGY

There are various methods through which one can collect the relevant data for the study. In this study, questionnaire method was used to collect the adequate facts/data from the users. Most of the questions are of closed type. To gather more information about the library resources and services, location etc. some of the users were interviewed personally and relevant data was collected. Totally 100 questionnaire were distributed out of which 90 were received back with good response. Hence, the response rate is 90 %.

5 SCOPE OF THE STUDY

The scope of the present study is confined to housewives. The study is limited to City Central Library, Hubli - Dharwad.

6 ANALYSIS AND INTERPRETATION OF DATA

6.1 Age wise distribution of respondents

Table – 1 Age wise distribution of respondents

Age	Number of Users	In Percentage (%)
20-25	27	30.00
26-30	18	20.00
31-35	15	16.66
More than 35	30	34.33
Total	**90**	**100.00**

The above table shows the age-wise distribution of respondents. It is observed that majority of the housewives, 30 (34.33 %),

belongs to the age group of more than 35 years, followed by 27 (30.00 %) to the age group between 20-25 years, 18 (20.00 %) to the age group between 26-30 and only 15 (16.66 %) to the age group of 31-35 years.

6.2 Frequency of visit to the Library

Table – 2 Frequency of visit to the Library

Frequency	Number of Users	In percentage (%)
Once a Day	03	3.35
Once in two days	08	8.88
Once a week	41	45.55
Occasionally	38	42.22
Total	**90**	**100.00**

Efforts were made to know the frequency of visit to the library by the respondents and data is presented in the Table – 2. It shows that majority of the users 41 (45.55 %) make use of the library once a week, followed by 38 (42.22 %) number of users occasionally, 8 (8.88 %) and 3 (3.35 %) of them visit library once in two days and once a day respectively.

6.3 Registered Members of the Library

Among 90 respondents, 71 (78.88 %) are registered members of City Central Library, while remaining 19 respondents have not taken the membership.

6.4 Satisfaction with the reading room facility

Table – 3 Satisfaction with the reading room facility

Response	Number of users	In Percentage (%)
Yes	80	88.88
No	10	11.12
Total	**90**	**100.00**

The above Table - 3 shows that the satisfaction of the housewives with the reading room facility of the City Central Library. It is very interesting to note that majority of the respondents 80 (88.88 %) are satisfied with the reading room facility and only 10 (11.12%) respondents expressed their dissatisfaction.

6.5 Satisfaction with the present working hours of CCL

Table – 4 Satisfaction with the present working hours of CCL

Response	Number of users	In Percentage (%)
Yes	87	96.66
No	03	03.34
Total	**90**	**100.00**

Table - 4 reveals that the majority 87 (96.66 %) of the respondents felt that the present working hours are most suitable to them, and only 03 (3.34 %) respondents responded negatively. This clearly indicates that the CCL Hubli-Dharwad is fixed its working hours in accordance with the first law of Library Science of Dr. S.R.Ranganathan which encourages using library and its resources.

6.6 Type of reading materials used by Respondents

Table – 5 Type of reading materials used by Respondents

Sl. No.	Type of reading Material	Number of users	In Percentage (%)
1.	Novels	69	76.66
2.	Poetry	07	07.77
3.	Drama	09	10.00
4.	Biography	05	05.55
5.	Encyclopedia	12	13.33
6.	Text Books	13	14.44
7.	General Knowledge Books	40	44.44
8.	Humor	22	24.44
9.	Classic	10	--

The above table presents the data related kind of reading materials used by the housewives. It shows that the majority of the respondents 69 read novels, followed by 40 reading general knowledge books, 22 humor, 13 text books, 12 encyclopedia and dictionaries, 10 classics,, 9 dramas, 7 poetry and 5 respondents read Biographies. The above table also indicates that the housewives are not only interested in recreation but are also keen in updating their knowledge by using the reading materials such as Encyclopedia, Text Books and General knowledge books.

6.7 Purpose of using the library and its resources

Table – 6 Purpose of using the Library and its Resources

Sl. No.	Response	Number of Users	In Percentage (%)
1	To spend leisure time	46	51.11
2	To continue education	15	16.66
3	To improve knowledge	43	47.77
4	To assist husband at office work	04	04.44
5	To help children	18	20.00
6	To participate in social work	09	10.00
7	To update knowledge	20	22.22

The above Table - 6 reveals that the different purposes of using library and its resources by housewives. It is quite interesting to note that majority of respondents, 46 are using library to spend their leisure time, followed by 43 respondents to improve their knowledge, 20 to update their knowledge, 18 respondents to help their children, 15 to continue their education, 9 respondents to participate in social work and 4 respondents to assist their husband at office work. The above table also indicates that housewives are not only using the library and its resources for leisure, more than that to improve their knowledge and to assist their children and husband.

6.8 Usefulness of Library Staff

A direct question was asked regarding the usefulness of library staff, for which the majority of the respondents i.e. 70 (77.77 %) are satisfied with the assistance given by the library staff, while, only 20 (22.23 %) respondents are moderately satisfied.

6.9 Satisfaction with the location of CCL

Majority of the respondents 81 (90 %) are fully satisfied with the present location of the CCL and 09 (10 %) are moderately satisfied.

6.10 Adequacy of Library Collection

Table – 7 Adequacy of library collection

Sl. No.	Type of Collection	Yes	No
1	Books	75	07
2	Reference Books	32	08
3	General Reading Books	41	10
4	News papers	38	02
5	Magazines	34	02

The above table presents that the maximum number of respondents, 75 opined that the book collection of the City Central Library is adequate, followed by 41 with General Reading Books, 38 with news papers, 34 with magazines and 32 of the respondents with Reference Books. In toto Book Collection is far better than other reading materials.

7 SUMMARY OF THE FINDINGS

The systematic efforts in data collection and scientific analysis lead to identify some of the following findings.

(i) Majority of the respondents i.e. 30 belongs to the age group between 30-35 years.

(ii) From the survey, it is found that majority of the respondents (41) make use of the library once a week. It reveals that there are few respondents who visit regularly.

(iii) The survey reveals that the majority (71) of the respondents are registered members of the City Central Library, Hubli-Dharwad.

(iv) Majority of the respondents (80) are fully satisfied with the present library working hours. The CCL is kept open from 8.30 a.m. to 8.00 p.m. is found very much convenient by the respondents.

(v) Majority of the respondents (69) are keen interest in reading novels, followed by general knowledge books.

(vi) Majority of the respondents (46) make use of the library and its resources to spend their leisure time and to improve their knowledge.

(vii) Majority of the housewives found that the collection of Books and General Reading Books are adequate in comparison with the newspapers and magazines.

8 SUGGESTIONS

Keeping in view the opinions given by the users and the analysis of data the following suggestions are offered.

a) To meet the needs and requirements of the housewives Library has to select and acquire books related to Health, Cookery, Interior Decoration, Fashion Designing etc. which would be very useful to them.

b) There is a heavy demand of reading books by the housewives. Therefore, it is recommended that library should purchase multiple copies of the books, novels and other reading materials.

c) To enhance the use of reading materials by the users in general and housewives in particular, it is suggested that the regular User Education Programmes should be conducted.

d) To attract more number of users, it is recommended that the City Central Library has to organize different cultural programmes, exhibitions, quiz and debate competition for housewives.

9 CONCLUSION

The worth of civilization can be judged by the place given to women in the society. One of several factors that justify the greatness of India's ancient as well as present culture is the honorable place granted to women in the Indian Society. In the modern society women are working in each and every field/sector. Women's contributions in politics, social, and economic development of a nation is quite significant.

A woman who desires to be a housewife undoubtedly has a purpose. Her objective is to love her family, supporting them and giving them the confidence they need to excel. A housewife provides a sense of stability for her family. It is rightly said that

when you educate a man, you educate an individual, where as when you educate a woman, you are educating a family. Thus it becomes important for a public library to give special attention to the reading interests of the women users.

Public Libraries in the western countries are providing variety of services, such as internet service, CD-ROM and web-based services etc. Though such type of services are really unimaginable in the developing country like India, but things are changing slowly, therefore similar type of services and facilities are expected from the public libraries at least in the CCL's. Now it is the prime responsibility on the part of the State and Local self Governments to go for joint venture to help the public of its region and the women community in particular.

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USER EMPOWERMENT IN ACADEMIC LIBRARIES

R K Rout*
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ABSTRACT

The paper discusses the user empowerment in academic library and user empowerment interface with practical and transferable skills through information literacy training by libraries.

1 INTRODUCTION

Timely access to appropriate, quality information is often associated with power, progress and prosperity. The key mantra for any service-oriented organization is to provide right information in an organized form to the right user at the right time especially in the organization like library and information centre. With the growth of computer technology added with multimedia technology and above all telecommunication technologies, the constant growing demands of the user community has made it imperative to adopt the means of latest technologies in library and information centers. Further, with the growing number of individuals with access to information via the Internet, this perception has dramatically increased. Information services can either continue to focus on training users to search for their own information and can take a practical step towards empowering their user to use the Internet.

In view of the multidimensional, multifaceted information of the user communities pertaining to their research, their satisfaction has become the call of the hour because without user satisfaction, library and information centre cannot survive for long time. For its existence, it is the responsibility of the information centers to empower their user about their services. The empowerment of

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user is the important and indispensable step of the library or any information center to be successful and prove to be the most authentic learning centers whose activities will make aware of the information seekers.

2 USER EMPOWERMENT

User empowerment is the aware and instruction to the user to make them awaken to get right information in a right way without any difficulty. It is a step to make aware the user for their role at the information over load age.

3 NECESSITY OF USER EMPOWERMENT

User Empowerment is the call of the day for the Library and information centre since user is its backbone. It has the following necessity in the information explosion age as:

(i) User empowerment is needed to provide right information to right user at the right time;

(ii) Make aware the user about their role in handling information in the age of information technology;

(iii) It has great role for the maximization of use of resources of the library and information centers;

(iv) Develop plan and strategy to make the user literate at the information literacy age;

(v) For making the clientele skilful regarding information access;

(vi) To make aware the clientele about their rights and duties regarding information access to a library and information centre;

(vii) Develop and improve the library services to provide maximum satisfaction of the library as well as user;

(viii) Make conscious to the user to explore the procedure and way for successful handling and getting needed information at the information overload age;

(ix) Preparing planning and setting of goal for successful management of Library and information centres to provide right information to the right user at the right time; and

(x) Empower academic user to take advantages of information resources available worldwide.

4 RIGHT TO INFORMATION ACT

Participates effecting in groups to pursual and genor ate information.al fet of core thinking and problem solving meterials . paThe Right to Information Act is a comprehensive legislation that would confer statutory rights on the citizens for seeking information from public authorities. The Act seeks to ensure (a) Maximum disclosure and minimum exemption consistent with constitutional provisions (b) an effective mechanism for access to information and disclosure by authorities, (c) an independent appeal mechanism and (d) penalties for failure to provide information as per the law.

5 USER EMPOWERMENT IN ACADEMIC LIBRARIES

Academic library system comprises of libraries attached to School, College, University and such other educational organizations. Their user community consists of

(a) Students;
(b) Teachers;
(c) Research scholars, and
(d) Supporting staff.

An academic library is mostly meant for teaching and research purpose. The students, faculties and research scholars mostly depend on Internet and journal consortia to get the latest literatures in their field of Internet. The subjective approach to knowledge has been changed to objective approach. Hence user attendance are reduced in the libraries and reading rooms. The continuous reading habit of the books by the user is reduced day by day. The fourth category of user requires occasionally to read only leisure and pleasure reading materials.

In such a situation the library has to provide particular skills so that user can acquire more knowledge in a limited time. The skills will make than information literates. Developing search strategy by way of orientation will empower the user to be independent in literature search in a limited time.

5 ROLE OF LIBRARY AND INFORMATION PROFESSIONALS

Library and Information Centres (LICs) have a crucial role at this IT era to awaken the user to provide right information at the right time at the right way. Information overload has created problems

on the part of the user to retrieve required information according to the need of the information seekers. Hence library and information professional should strives hard to mange the information explosion and provide precise information service to their clients. In this context libraries play a pivotal role in empowering the information user by conducting Information Literacy (IL) programmes like.

(i) Library orientation;
(ii) Library instruction course;
(iii) Individual instruction or references courses;
(iv) Use of library manuals and guides; and
(v) Instruction on how to develop search strategies.

The ultimate goal of a comprehensive information literacy course is to inculcate in the individual the ability to recognize when the information is required and to teach them to understand how the information is organized and how to access it. Libraries assist the clients to identify and to select relevant information using appropriate search strategies and being able to be evaluated, organize and synthesize that information in to a meaningful presentation.

6 USER EMPOWERMENT v/s USER FRIENDLINESS

User empowerment means the interface that assumes user to know what they want to accomplish. User empowered interface can provide specialization or powerful features which make the advanced user very productive. User can perform specific and advanced tasks more efficiently and effectively.

User friendliness means that the interface will guide the user through different stages towards the accomplishment of the tasks. It liaisons the differences between user and the systems, so that user can interact more with the tasks and less with the system. User-friendly interface will ask the user for details that are sufficient enough to complete the task. The interface will always ask to confirm user intention before performing certain action.

Through the use of questionnaire, interview interaction with focus groups and observation (in normal working environment), the choice between user friendliness and user empowerment can be decided. This decision can be verified by usability test on real users, their needs, capabilities, preferences and constraints. In an attempt to make balance between user friendliness and user

empowerment, it may be possible to design a flexible interface that can handle a spectrum of users usage situations.

7 PRACTICAL STEPS FOR USER EMPOWERMENT

Before, participating in user empowerment programme one of the tasks is to analyse, user needs and to decide the best and most appropriate methods of communication. In academic libraries according to Lucy Liddiard and Key Moore, the following practical steps should be taken for empowering the information user as follows:

(i) A logical layout of stock to facilitate browsing;
(ii) Clear labeling of books and other stock;
(iii) Clear signs indicating the different areas of the stock;
(iv) A staffed enquiry point;
(v) Leaflets and posters describing the range of services available;
(vi) User guides placed next to computerized catalogues/ electronic databases;
(vii) Instructions for the use of specialized equipment;
(viii) Induction sessions for new users;
(ix) Library tours;
(x) The provision of information skills units for those in education; and
(xi) Conducting training workshops, refresher courses etc.

8 INFORMATION LITERACY PROGRAMME

Information literacy is an indispensable part of user empowerment process. Information literacy is an understanding and set of abilities enabling individuals to recognize when information is needed and have the capacity to locate, evaluate and use effectively the needed information (American library association 1980). In other words information literacy refers to a persons ability, to access and understand the variety of information resources. Hence it helps in educational, social and economic empowerment of all categories of people such as students, layman, any professional, farmer, women, businessman, etc. and each and every one in the literate society need to be empowered through information literacy programme.

It is helping the user in the following way as a means to empower the user as

(i) Helping in information capability building;
(ii) It develops life long independent learners;
(iii) Helps individuals in decision making through information awareness;
(iv) Its works like a building block of research, which shows a fundamental set of core thinking and problem solving materials with other discipline;
(v) Using IT for information retrieval and communication;
(vi) Participates effectively in groups to pursue and generate information;
(vii) Controlling and storing information for easy retrieval;
(viii) Appreciate literature and other creative expressions of information; and
(ix) Summarize and analyze essential information from pertinent resources.

9 CONCLUSION

Empowerment of the user should not only be taken as a management practice but should be taken as the mindset for the libraries. Users must be empowered with new knowledge, skills, attitude and dignity. Conducting training, workshop, and refresher courses will equip the clients with requisite, capabilities and facilitate to observe, examine, experience and realize in person the whole transformation, information empowerment process and also present status of the world class library and information centers. Largest access, storing and retrieving of information resources can best be practiced by empowering user in academic libraries.

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VIRTUAL OBSERVATORY: A BRIEF NOTE OF VIRTUAL OBSERVATORY INDIA

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ABSTRACT

A 'Virtual Observatory' (VO) is a system that allows astronomers to interrogate many centers holding astrophysical data and provides a single virtual platform, which will provide astronomers easy access to large astronomical data over many different wavelengths. The Virtual Observatory concept is the astronomy community's answer to these challenges. It represents an organized, coherent approach to the transition to a new, information-rich astronomy for the 21st century. India's Virtual Observatory is presented in this paper. It briefly describes the functions and the facilities for the potential users in India.

1 INTRODUCTION

Astronomers use vast quantities of data for their research. These data are obtained using many different kinds of telescopes situated on the ground and on satellites in space. Because of the rapid advance in telescope and detector technology there has been a phenomenal increase in the quantity of data, both from observation of specific objects as well as from surveys, which cover entire areas of the study. The data volumes have already reached terabytes and great growth is expected over the coming decade. Because of the large volume of data, and the many different forms in which it is available, the storage and retrieval of data have become difficult tasks. It has also become very challenging for astronomers to use the vast storehouse of data to produce exciting new scientific discoveries. The VO is a system in which the vast astronomical archives and databases around the world, together with analysis tools and computational services are linked together into an integrated facility. The VO aims to achieve for astronomical data what the WWW has achieved for documents. Data from all the world's telescopes, both ground and space-based, will be available on the desktop PC to anyone, anywhere via the Internet - a World Wide Telescope that puts the universe in its multi-wavelength glory on-line.

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2 VIRTUAL OBSERVATORY

VO is a collection of integrated astronomical data archives and software tools that utilize computer networks to create an environment in which research can be conducted. Several countries have initiated national virtual observatory programs that will combine existing databases from ground-based and orbiting observatories and make them easily accessible to researchers. As a result, data from all the world's major observatories will be available to all users and to the public. This is significant not only because of the immense volume of astronomical data but also because the data on stars and galaxies has been compiled from observations in a variety of wavelengths optical, radio, infrared, gamma ray, X-ray and more. Each wavelength can provide different information about a celestial event or object, but also requires a special expertise to interpret. In a virtual observatory environment, all of this data is integrated so that it can be synthesized and used in a given study. (Encyclopedia.com)

3 IMPORTANCE AND ADVANTAGES OF VIRTUAL OBSERVATORY

A Virtual Observatory (VO) seeks to facilitate the storage of large volumes of data and its use in an efficient manner. Efforts in establishing such structures have been made, with moderate success, by different observatories and institutes from time to time. But the huge increase in the volumes of data now available, and the need to carry out research simultaneously in many different parts of the electromagnetic spectrum, has made it necessary to make collaborative efforts, much in the manner of joint effort undertaken to develop major new ground and space-based telescopes. The need is to make a comprehensive solution available to help astronomers, regardless of their geographic location, or their own area of expertise, to access data generated from different telescopes all over the world and in space. The vast quantities of data will enable astronomers to look for very rare objects, patterns and relationships which remained totally inaccessible when only very limited data were available. Searching for these rare features will require the development of highly sophisticated data mining techniques for the search to be completed in finite time. The features found will have to be subject to analysis, and to be compared with the results of numerical simulations. The VO will seek to provide hardware and software platforms on which all these operations can be carried out. Modern telescopes generate data at an astounding rate. Data

volumes now can be as large as several hundreds of G bytes to a few tens of terabytes. It is expected that some of the surveys, which will be initiated over the next few years, will generate several terabytes of data per day. Storing, retrieving and scientifically using these vast databases are a formidable task, which cannot be managed by astronomers alone. It will require the joint effort of astronomers and computer scientists to adopt existing hardware and software technology and to develop new hardware and software to meet the challenging task of making the data available to all potential users. Computer storage for large volumes of data is still very expensive and therefore the storage will have to be successfully managed using a hierarchy of archiving hardware and advanced data compression techniques. It will not be practical, over the foreseeable future, to maintain copies of all the data in different locations in the world. It will therefore be necessary to develop strategies for distribution of data in the most efficient possible manner and to provide for high-speed data transfer between the different data centers. Data obtained in different parts of the electromagnetic spectrum requires vastly different kinds of processing before it is brought to a scientifically usable form. The data is also stored using quite different hardware and software systems, and technique has to be developed for bringing together the different structures.

4 EXISTING VIRTUAL OBSERVATORY IN THE WORLD:

Virtual observatory projects are well established in some countries. The versatile capabilities of the WWW have been explored and utilized to meet the challenges of the astronomers in this project. This is the emerging concept of a Virtual Observatory (VO) as a global endeavour under the banner of the International Virtual Observatory Alliance (IVOA) to foster global access to astronomical data. IVOA comprises 15 separate national and international VO initiatives including that of India, called Virtual Observatory-India (VO-I). In June 2002, at an international VO meeting in Munich, the three VO consortia of the United States, the United Kingdom and Europe came together and founded the IVOA. The directors of these three programmes - the National Virtual Observatory (NVO) of the U.S., the European Astrophysical Virtual Observatory (AVO) and the AstroGrid of the U.K. - stated IVOA's mission and also drew up a road map for tasks ahead up to 2005 towards realising the international virtual observatory. Soon, other smaller national initiatives joined the alliance. Today its membership - besides the founding three - includes VO initiatives of China, India, Japan, South Korea,

Canada, France, Italy, Germany, Spain, Hungary, Russia and Australia.

5 INDIA's VIRTUAL OBSERVATORY

India has a community of astronomers who work on a variety of theoretical, observational and instrumentation projects. The research produced in the country is of world standard and significant contributions to the development of astronomy have been made over the years. In recent times the observational facilities available to Indian astronomers have been augmented by installation of moderately sized optical and infrared telescopes and the state-of-the-art Giant Microwave Radio Telescope. Experiments have been conducted from space, and a satellite for multiwave length astronomy is to be launched in a few years. While these developments have been commendable and exciting, it has been necessary to supplement observations made from Indian facilities by observations made with international facilities and space borne instruments. The facilities offered by a VO will very well complement those which so far been accessible, and will make a continuous stream of high quality data available for exciting research projects.

The work related to a VO will require the development of highly sophisticated tools for different storage, retrieval and for data mining. Great expertise in these matters is available for the Indian software community. The expertise developed by the Indian industry in software development and project management will be of immense benefit in development of the VO. The present project seeks to bring together astronomers and experts on computer science for the development of Virtual Observatory- India. Fig.1 presents the home page of the VO India.

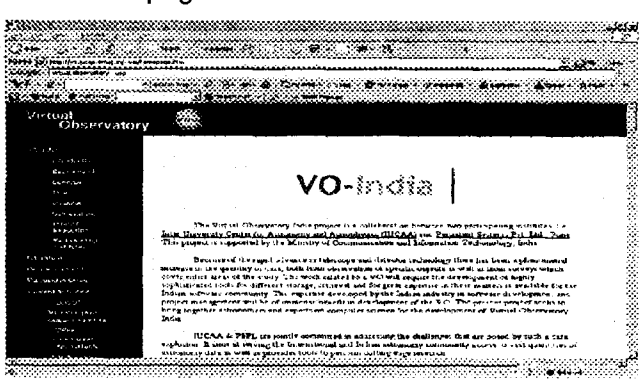


Fig.1 Virtual Observatory – India

6 INFORMATION SUPPORT FOR VO - INDIA

Significant contribution toward information support for the Virtual Observatory in India can be provided by the eight libraries which are part of Forum for Resource Sharing in Astronomy and Astrophysics (FORSA). Following eight libraries have fairly large collections of Resources in astronomy and astrophysics.

1. Indian Institute of Astrophysics (IIA),
2. Inter-University Centre for Astronomy & Astrophysics (IUCAA),
3. National Centre for Radio Astrophysics (NCRA),
4. Nizamiah Observatory (NIZ),
5. Uttar Pradesh State Observatory (UPSO),
6. Physical Research Laboratory (PRL),
7. Raman Research Institute (RRI), and
8. Tata Institute of Fundamental Research (TIFR).

The Information centers will offer many services to the astronomy community through the VO - India Project. The library and information centers will strive to integrate their book and Journal databases. The integrated database will have around one hundred and fifty thousand books and one hundred sixty thousand journal holdings (the numbers include the total collection, and there may be duplicate books and journal volumes). These libraries together subscribe to one thousand journals. All these libraries also have large collections of microfilm, microfiche, slides, CD-ROMs and photographs. These resources will be made available to the users through the VO. A preprint service similar to astro-ph can be initiated within the country to facilitate our Indian astronomers and physicists accessing electronically all the papers originating from different observatories and universities in the country.

7 USERS OF VIRTUAL OBSERVATORY IN INDIA

The creation of a VO will offer an excellent opportunity for those who belong to small institutions but express a great interest in astronomical research. This portal will help them to participate in a greater depth of astronomical research by providing them a variety of information. They will be exposed to large quantities of real data, which they will be able to use it in their work. This is an exciting project for many students who currently face difficulties in searching for information. The following categories of users will be able to access both a large quantity and variety of bibliographical data at one source. Users from Universities community from all

over the India Scientists, Astronomers and Researchers Students and Teachers, Science Museums and Planetarium.

8 CONCLUSION

VO will not only provide access to data which are scattered all over but also provide the software meant for collecting and using these data efficiently without one having to know a great deal about computing. VO will have data and software but the structure will be much enriched by building into access to the literature. Library staffs also need to participate in spreading knowledge about the VO among the students, teachers, and public. The facilities available on the VO will be changing rapidly, and someone is needed to keep track of this and to spread awareness in a continuous fashion. The libraries/library professionals can carry this out most suitably. VO - India can facilitate functioning of the International Virtual Observatory. By enabling access to the world's best astronomical data, the VO initiative will be particularly beneficial to astronomers from developing countries with limited resources. Even researchers from small institutions and colleges can hope to do frontline astronomy research using VO-derived data and images. More significantly, by producing new science at a fraction of cost and within months instead of several years, VO may even alter the very course of discovery about our universe.

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WEB SEARCH ENGINES: A COMPARATIVE STUDY

Shehbaz Husain Naqvi*

ABSTRACT

The Internet has grown rapidly since its inception in 1969 and is anticipated to expand further over the next few decades. The amount of scientific information and the number of electronic journals on the Internet continue to increase. The Internet and the World Wide Web (the Web) represent significant advancements for the retrieval and dissemination of scientific and other literature and for the advancement of education. Immediate access to all scientific literature has long been a dream of scientists, and the Web search engines have made a large and growing body of scientific literature and other information resources accessible within seconds. Scientific information retrieval and literature search, previously undertaken by librarians, is now directly available to a widespread group of scientists at their desktop.

The major search engine companies have often claimed that they can keep up with the size of the Web, that is, that they can continue to index close to the entire Web as it grows. There are a number of search engines available on the Web and what we need to know is what they do, how they do it and which is the best for information retrieval for us.

The paper presents the comparative study of different major search engines. This will help the users in understanding the basics of search engine and how to formulate queries to get relevant information easily and speedily.

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WI-FI TECHNOLOGY: VISIBLE INFRASTRUCTURE FOR NETWORKING

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ABSTRACT

Emergence of information and communication technology has dramatically increased the flow of information among the masses and bridging the information gap so called as digital divide. The paper discusses the Wi-Fi technology and its relevance to library and information centres. Further it concludes with a remark to imbibe Wi-Fi technology for wireless connectivity among national and international networks for transmission of information over the networks in an effective and efficient manner without loss of time irrespective of location to save the time of users in academics.

1 INTRODUCTION

Information technology is a label that reflects the convergence of several streams of technical developments, including microelectronics, computer science, telecommunication, software engineering, and system analysis. It is a technology that dramatically increases the ability to record, store, analyze and transmit the information in ways that permit flexibility, accuracy, immediacy, geographic independence, volume and complexity. Information technology has a unique capability to restructure operations that depend upon information for the purposes of transaction, record keeping, analysis and control or communication (Zuboff, 1988).

The technological revolutions have become order of the days. There is a revolution brewing in the world of communications, and for a change, the telecom companies or the Internet Service Providers is not driving it. The future is here. It's just not evenly

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distributed yet (O'Reilly, 2002). Wireless, Next-generation search engines, Weblogs, Instant Messaging, File Sharing, Grid Computing, and Web Spider.

Fast changing curricula and frequent introducing of new subjects impose a great demand on the system in general. Indian Universities need to be given the required thrust to entire the third millennium with a leading edge. Technology is a driving force in the contemporary education systems. Successful implementation of high-tech programmes like UGC-INFONET and INDEST consortia resources will really get further strengthened with the adoption of wireless technologies – Wi-Fi, as cultural inversion and feasible of Infrastructure for effective information networking in India.

2 CONCEPT OF Wi-Fi TECHNOLOGY

Wi-Fi is a trademark of the Wi-Fi Alliance formerly the Wireless Ethernet Compatibility Alliance, the trade organization that tests and certifies equipment compliance with the 802.11x standards.

Wi-Fi is a wireless local area networking that connects the computers to one another or to the Internet using radio links in an unlicensed part of the radio spectrum, 2.4 GHz. It replaces the cable that runs from a computer to a network socket in space and cultures the wall with an invisible radio link.

Wi-Fi (IEEE 802.11b) is a radio standard used for wireless computer networking that replaces costly coaxial cables with a band of microwave spectrum that would be possible to set up a series of receivers with overlapping ranges to provide a network that bypasses conventional telecoms networks and enables access to networks from mobile terminals. A worldwide group of visionary amateurs sees Wi-Fi as the perfect way to break free from government regulation and the giant telecoms companies (Glaskin, 2002).

The benefits of Wi-Fi technology could be

(i) It uses an unlicensed bit of the broadcast spectrum, this means less regulatory controls in many countries;

(ii) It offers faster and cheaper Net connections;

(iii) Allows for a more dynamic network to be grown and frees network devices from cables;

(iv) No enforced time limits to connect;

(v) Spread out at a larger table in a quieter area of the building;

(vi) Fast broadband connection and download files;

(vii) Save files permanently to one's own device;

(viii) Many reliable and bug-free Wi-Fi products are on the market and competition amongst vendors has lowered prices considerably since its inception, and

(ix) Wi-Fi is flexible network and while connected on a Wi-Fi network, it is possible to move about without breaking the network connection.

However on the other hands, Wi-Fi technology is cautioned with respect to the following

(i) The Wi-Fi uses the 2.4 GHz spectrum, which is crowded with other devices, which may cause degradation in performance;

(ii) Power consumption is fairly high compared to other standards, making battery life and heat a concern;

(iii) A WiFi network is less secure than a wired network;

(iv) Signal strength varies within the Library;

(v) Users do not always configure it properly. In addition, Wi-Fi commonly uses WEP (Wired Equivalent Privacy) protocol for protection, which has been shown to be easily breakable even when properly configured and

(vi) These Wi-Fi networks have limited range with home router using 802.11b or 802.11g might have a range of 150 ft (46 m) indoor and 300 ft (92 m) outdoors.

3 WIRELESS NETWORKING OF Wi-Fi TECHNOLOGY IN INDIA

Information Technology is evolving at a rapid pace worldwide to cater to the need for providing information in any form, at any anywhere. The trend is to set up networks, which are device independent, thus enabling flexibility of access, and also meet the requirements arising out of codependence technologies. Regular technology inputs would be required to upgrade the network infrastructure to ensure delivery of upcoming applications and contents to the education and research community in the country. UGC, INFLIBNET and ERNET have come together to meet the challengers that may face the education community with respect

to real time information. Indian Universities constitute one of the largest higher education systems in the world. With 294 universities/institutions, 13150 affiliated colleges, 88.21 lakh students and 4.27 lakh teachers; it is a great challenge to ensure effective coordination and communication. University Grant Commission has launched an ambitious programme to bring about a qualitative change in the academic infrastructure, especially for higher education. Under this initiative UGC is modernizing the University Campuses with State-of-the-art campus wide networks and setting up its own nationwide communication network named UGC-Infonet. On par with this, the Ministry of Human Resources Development (MHRD) has set-up the "Indian National Digital Library in Science and Technology (INDEST) Consortium" for subscription to electronic resources to 38 institutions including Indian Institute of Science and Indian Institute of Technology's, National Institutes of Technology (Regional Engineering Colleges), Indian Institute of Management and a few other centrally funded Government institutions through the consortium headquarters set-up at the Indian Institute of Technology, Delhi. Thus, adoption of Wi-Fi technology would be a great boon to the networking structure of the academics to enhance the speed of accessibility, mobility and utility of e-resources on the Internet.

4 IMPACT OF Wi-Fi ON LIBRARY AND INFORMATION CENTRES

The pros and cons of wireless technologies applied to public and academic library, computerized library systems with particular reference to Wireless Fidelity (Wi-Fi), which enables academics and students to access the library's computers from anywhere on the campus. The technology of networks - Wi-Fi with particular reference to security and performance issues is helpful and offers a high level of convenience, it is easy to overstate its benefits and dismiss other wired alternatives too easily. The wired world of copper and fiber-based networks will continue to be the basic fabric of networks for the predictable future, but Wi-Fi is a rapidly growing niche. Wireless technologies will continue to grow in popularity, increase in performance capabilities and come up with better security solutions. Users of mobile computers and personal digital assistants (PDAs) will become a larger proportion of any library' clientele. (Breeding, 2002). In fact Google WiFi is a community outreach program to offer free wireless access. In India, 256 kbps Internet hub has been set up at Pune airport by

Microsense, a leading Wi-Fi provider and it becomes the first civil enclave (a civilian airport operating in an Air Force base) to be Wi-Fi enabled.

The People's Network was an unprecedented investment from central government through the lottery, to connect all public libraries to the Internet in the United Kingdom. Across the UK, all 4,200 public libraries provide around 60 million hours of Internet access to local communities every year on over 30,000 terminals, and in 90% of cases free of charge. The People's Network continues to be an extremely popular part of public libraries' service provision, which is a tribute to public library staff across the country that worked so hard to bring the project in on time and in budget.

Wi-Fi (Wireless Fidelity) 'hotspots' have become popular at various locations throughout the country where people need to have instant access to the Internet. Typically they are located where people who are traveling around tend to spend time. This includes coffee houses, fast food restaurants and waiting rooms in train stations. People simply turn on their own wireless-enabled laptops or Personal Digital Assistants (PDAs), pay a fee online, and then start to surf the net. The key point is that these people do not have to physically 'plug in' their computer to a network. The network signal is 'broadcast' through WiFi technology. The service has been popular with students in coffee bars and with business people on the move. The technical specification for the People's Network included a requirement for broadband connectivity at each library. This was not possible everywhere but across England around 90% of libraries have a broadband connection. This has been especially useful in rural areas where the local public library can often be the only location with broadband. However, other factors that can typify a rural public library are size and opening hours. This is where WiFi technology can help.

The Museums, Libraries and Archives Council, the Department of Trade and Industry, and The Countryside Agency are working in partnership to trial WiFi hotspots in 10 rural public libraries across England which aims to raise awareness of the potential for broadband services, enhance the experience of broadband for rural communities and undertake Action Research to determine whether the pilot WiFi library model could be used nationally. The libraries involved are Ayton Library (North Yorkshire), Barnard Castle Library (County Durham), Belper Library (Derbyshire), Brewood Library (Staffordshire), Chatburn Library (Lancashire), Launceston Library (Cornwall), Lyndhurst Library (Hampshire),

Potton Library (Bedfordshire), Prince-town Library (Devon) and Sandwich Library (Kent) (HP.COM, 1998)

There are many people already coming into libraries with their own computer hardware. This is not surprising and demonstrates the impact of ICT on society mentioned earlier. A modern laptop is at once an online information retrieval device, a research tool, a DVD player, a music player, a personal finance ledger, a writing tablet, a games machine and many more things besides. It is only natural that people want to bring in their own laptops and record the results of their research or experience in the library. Currently this is only possible offline, which is fine if you only wish to record results gleaned from hard copy resources. With a WiFi hotspot in place, a library will be also able to offer access to online resources held locally such as CD-ROM databases or on the Internet on an individual's own laptop.

WiFi connection is available to users when the library is open and the users are able to come into the library and use a wireless-enabled device of their own, or a wireless-enabled laptop belonging to the library.

A WiFi connection is available to users both when the library is open, and when it is closed. The WiFi connection is achieved either by the user's own wireless-enabled device or by a wireless device loaned to them by the library. This could be a laptop with a connection outside of the library would only be possible within 100-300 metres of the building.

A WiFi hotspot will provide particular advantages for the users in an academic and research environment as under:

- Researchers - The ability to go into a library with your own laptop and conduct research over the Internet without having to travel in to a larger town library would be a real boon.
- Family learners - Out of school hour's access to the Internet will help schoolchildren with homework and access to online formal and informal learning resources will also be possible for adults.
- Business users - The business research conducted in the library will be considerably enhanced with Internet access available on a personal portable device.

Thus library in-house activities and services could be extended to the user community at their desktops without much physical environ rather wireless at a higher speed than now to justify the

realization of five laws of library science laid down by Dr S R Ranganathan. Thus, the user's time consciousness approach for want of information can be met out of networking through Wi-Fi feasible technology, where bandwidth and physical layout would be at its advantage.

5 CONCLUSION

India is now pinning its hopes on the IT-enabled services that can serve the world answering phones and emails in contact centres, developing software, analyzing x-rays and providing medical advice, processing insurance claims. Nothing wrong with this picture, especially considering that there is a dearth of technical manpower in India to service the world. More specifically, the Library and Information networks should adopt Wi-Fi technology to suit the changing needs with a view to over come the barrier of bandwidth, portability and timely access to information.

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BEYOND INFORMATION AND INFORMATION LITERACY: LIFELONG LEARNING FOR STAYING AHEAD OF CHANGE AND COMPETITION

Jagtar Singh*

ABSTRACT

Takes stock of the profound changes taking place across the globe and underlines their impact on the life and work of people. Raises a few issues and concerns. States that information literacy and lifelong learning are essential conditions for staying ahead of change and competition. Asserts that the biggest challenge for library and information professionals today is to learn to convert information into knowledge and knowledge into information. Information skills for learning can go a long way to obtain this mission. The paper presents the information literacy for change and competition.

1 WHOSE WRIT PREVAILS

At the outset, I want to make a statement that neither libraries are the relics of past or websites are harbingers of future. In fact, a library is a social utility created to preserve our documentary heritage and provide timely access to it. Today, only the format has changed but the mission of the metaphor, i.e. libraries are intact. Their role has expanded. Library today has become a concept and a private space. With the convergence and confluence of information and communication technologies (ICTs), blurring of boundaries is taking place. But the traditional constraints of place and time have suffered a deathblow. It is now possible for a library to serve as a local gateway to the world's knowledge and information provided the man ware has the necessary will, skill and infrastructure. But still networks and websites are a luxury for the 'info-poor'. The benefit of the information and the ICTs must reach the poor, rural folks, and other 'have nots'. For these governments, NGOs, corporate

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sector, and the civil society have a pivotal role to play. United Nations Literacy Decade (2003-2012) and WSIS are laudable initiatives. But the main issue here is that at the end of the day whose writ prevails.

2 BEYOND INFORMATION AND INFORMATION LITERACY

But in spite of his ascent of information, ICTs, and various networks, we must think beyond information and information literacy. ICTs and webpages will never be stable like print-on-paper publications. Hence the stakeholders must learn to manage change and techniques of technologies. Simply speaking, we cannot manage change, but we can certainly manage our response to change. We will have to learn to adapt to the unprecedented changes taking place around us. Fiscal and technological changes are the heart of the matter. We are faced with a diametrically opposite situation. There is growing universe of digital documents on the one hand and declining library budgets on the other. Though the ICTs are eating away the major share of library budgets, yet their by-products are not visible on the public domain. We are supposed to change our mind-set. Instead of typical consumers, we must learn to create and innovate. Innovation means abandoning the old and the irrelevant and creating the new and relevant. This can be done only if we are empowered with information skills for learning. Learning is a lifelong process. The classroom learning will not help us to find real solutions to our real problems. We will have to change our attitude. We must learn to unlearn and relearn. We must think beyond information. Information literacy is certainly helpful, but it is not panacea to all our problems. We must learn to convert information into knowledge and knowledge into information. Converting information into knowledge means internalizing information to empower people with essential competencies for problem solving. Converting knowledge into information means enabling people to learn to externalize knowledge for the benefit of the present and future generations. This is the real challenge for the knowledge workers because people are the real long-term competitive advantage and lifelong learning is the way to fully develop that advantage.

3 PERSONAL AND PROFESSIONAL COMPETENCIES

We know that information literacy is the ability to access and use information strategically. If knowledge is power then information is instant power as it can be used instantly. Hence we must

empower the stakeholders with this power. Personal and professional competencies are sine qua non for access management and success management. IFLA and UNESCO are particularly focusing their attention in this area. IFLA-ALP and UNESCO-IFAP are ambitious programmes in this regard. IFLA-ALP sponsored a regional workshop in Colombo and National Institute for Library and Information Sciences (NILIS); University of Colombo hosted it during November 2004. Empowering – 8 Model was developed in this workshop. As a follow-up, another international workshop on 'Information Skills for Learning' was again sponsored by IFLA-ALP and UNESCO-IFAP and hosted by the Department of Library and Information Science, Punjabi University, Patiala from 03-07 October 2005. Eleven resolutions relating to the theme of the workshop were passed for follow-up action. The workshop outcomes will be discussed in detail at the time of presentation of this paper. In view of the constraints of space and time, I would conclude this paper with the statement that personal and professional competencies (PPCs) are essential surviving and thriving in a world pregnant with fierce competition, unprecedented changes, and instable ICTs. Only PPCs would enable us to ensure growth, TQM, and value addition. Best practices and lessons learned would be additional assets. After all, the basic question here is 'to be or not to be' and lifelong learning means a journey from 'being to becoming'.

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BRIDGING THE KNOWLEDGE GAPS UNDERSTANDING THE CONFLUENCE OF INFORMATION LITERACY AND LIFE LONG EDUCATION

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ABSTRACT

The dynamics of information environment are far more complicated than those of fifty years ago. The term 'information' is often overused, and consequently become diluted. Phrases such as "information economy", "information systems", "information society", and "information management" are used in a myriad of applications. It has largely been emphasized, that there is an urgent need to make the role of information more visible in order to enable effective information sharing, which can be leveraged, created, or expanded.

The explosion of new knowledge, accelerating technological progress, and ever increasing competition make life long learning more important than ever. It has become mandatory for the societies to ensure basic education for all, and provide opportunities for people to continue to learn throughout their lives in order to bridge the knowledge gaps.

The paper explains the term literacy, information literacy, its need, and importance in Higher Education with special reference to libraries vis-à-vis learning resource centres, and library professionals. Attempts to give an insight to the efforts being made to promote 'Information Literacy' at the different quarters of the country. It stresses on the need to understand the growing importance of Information Literacy in the changing technological environment, and speaks about the confluence of information literacy, and lifelong learning.

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ENHANCING INFORMATION LITERACY IN UNIVERSITY LIBRARIES: A CONCEPTUAL MODEL

Nalini A Raja*

ABSTRACT

University libraries have directly contributed to national development scientifically, socially and economically by way of offering research oriented courses. All Research and development process need authentic global information instantly. All research activities start with finding reliable, accurate and relevant information for building up knowledge for constructing models or concepts or problem solving. Librarian's responsibilities do not end with acquiring, organising and disseminating information in the 21st century. Along with the information sources, it calls for educating a user with the interfaces used to access information, specific search techniques and knowledge of available search engines and/or search guides. The paper presents the concept of information literacy and discusses the conceptual model for enhancing information literacy in university libraries.

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ICT FOR LEARNING PROCESS OF VISUALLY IMPAIRED STUDENTS: A CASE STUDY OF HELEN KELLER UNIT OF J N U LIBRARY

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Muttayya Koganuramath[**]

ABSTRACT

The paper deals with the information literacy and lifelong learning process of visually impaired people. Jawaharlal Nehru University Library strongly supports these marginalized people needs to promote information literacy and practical implementation of Information and Communication Technology (ICT), particularly in learning process of visually impaired students. The study deals with Information seeking behavior of the visually disabled researchers of J.N.U., making best use of information sources, services and technology to learn and adopt new learning methodologies. The Helen Keller Unit of the J.N.U. library is recognized centre of learning for these special users. An attempt has been made in this paper to know the awareness of e-resources and e-learning process in the library to facilitate the specialized users.

1 INTRODUCTION

Throughout history the visually impaired have been stigmatized, marginalized and discriminated in almost all societies. They have represented a segment of the population that is most backward, least served and grossly neglected. It having been customarily to deny their right to identity, development and social respect, specially in societies where economic survival are difficult, the elimination of blind people is considered justified, since they are regarded as weak and dependent members and hence a liability to the society.

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In recent years, with the development in various fields, the term 'disability' and 'handicap' have been referred to as 'activity-limitation'. Now, disability means without ability, pride or dreams. Thus blindness never be a question of 'disability' for those who wants to achieve their goals at all.

So, it's moral duty of modern societies to provide them suitable environmental conditions, instructional methods, useful materials and equipments etc. to approach latest information and be they in mainstream educational system. One could receive information by three ways:

- Sensibility
- Visually, and
- Aurally

Most of the educational information is available on printed form and some time on soft copy or online, which could be received visually only. Visual impairments include low vision, color blindness, and blindness. People who are completely blind cannot use a computer monitor and must receive information from their computers via another sense - hearing or touch. People with low vision can also receive information through sound or touch. And as a fact traditional methods could not facilitate visually impaired student to receive information from all kind of information sources. So, it's strongly felt that these students need some special IT Support by which they could read all kind of study material.

Print-disabled people face the particular challenge of having to modify the presentation of published material before they can read it, or getting someone else to do so. Print may have to be converted into large print or braille, e-books may have to be accessed by turning the screen display into voice output, and so on. A further problem is that technological protection measures can inadvertently negate exceptions if they do not permit the use of assistive technology. Libraries, the big information source of today's educational system play very important role to solve these problems. IT professionals also developed some good software and equipments that would be very helpful to the purpose which removed their visual impairment by providing them information from hard and soft kind of documents. This could be enabling them to break their 'disability'.

In this information era, information is growing very fast. So, everyone feels very needy of latest information and wants to be up-to-date. This is also applicable to visually impaired students. But problem is, they have limited facilities and options available in

various educational institutions, because of different reasons. Actually, this became a big challenge, especially for academic libraries, to provide them suitable environment and latest technologically supported laboratory by which they could access information from all kind of documents. Some of the academic libraries accepted this challenge and one of them is Jawaharlal Nehru University library.

2 OBJECTIVES OF THE STUDY

The main objectives of the study are:

i) to workout requirements of the visually impaired students;
ii) to evaluate visually impaired students' opinion towards facilities in 'Helen Keller Unit' at J.N.U. Library;
iii) to analyze the benefits of the programme;
iv) to workout the problems and difficulties that they have faced; and
v) to provide guidelines for future development of the programme.

3 METHODOLOGY

The survey method is the best way to achieve desired objects. Hence a survey was conducted with the help of questionnaire that distributed in floppy and designed for visually impaired students. It contains majority of questions with multiple choices and appended in ANNEXURE-1 (print form). Most of the students responded this questionnaire online. Visually impaired students response has been collected the same and then evaluate their views. Thus the result of the study reflects the attitude and needs of the visually impaired students as well as guidance for future development.

4 HELEN KELLER UNIT

JNU Library named 'Helen Keller Unit' to their special section for visually impaired students, in the memory of Madam Helen Adams Keller. This unit is located at ground floor right to the main entrance of the library. JNU library providing following facilities and services to visually impaired students at Helen Keller Unit:

i) Air conditioned cabin
ii) Power back-up facilities
iii) Opening hours

Monday to Saturday: 9:00 a.m. – 12.00 midnight
Sunday: 9.00 a.m. – 8.00 p.m.

iv) Library deputed one Professional Assistant for providing them guidance and other services as free print –out, CD writing, scanning and audio equipment etc. facilities.

v) Providing online searching (Internet browsing), OPAC, information generation facilities etc. with useful applications and technical support.

vi) List of equipments provided to Helen Keller Unit are shown in table –1.

Table – 1 List of equipments provided to Helen Keller Unit

Name of equipment	Number
Computer sets	Nine
Scanner	Nine
Earphone	Nine
Laser Printer	One
Braille Printer	One
Braille type writer	One

5 SOFTWARE IN HELEN KELLER UNIT

JNU Library provides two specific software supports, JAWS 5.0 and Kurzweil1000 to Helen Keller Unit. JAWS is Screen Reading Software and Kurzweil 1000 is Optical Character Recognition (OCR) Software.

5.1 Screen Reading Software: A screen reading program presents graphics and text as speech via a speech synthesizer (also known as, text-to-speech (TTS) systems. It's not only read the text on the computer display but also facilitate blind users to review their input as they type.

5.2 Optical Character Recognition (OCR) software: This software is used in conjunction with a PC and scanner to copy printed text to the computer and hold it electronically, so a screen reader can read it.

5.3 JAWS

J.N.U. Library adopted JAWS software for "Helen Keller Unit". It provides speech technology that works with the Windows operating system to access popular software applications and the Internet. With its internal software speech synthesizer and the computer's sound card, information from the screen can be read.

5.4 KURZWEIL 1000

Kurzweil 1000 is reading software that makes printed or electronic text accessible to people who are blind. It converts a PC and scanner into an advanced version of the revolutionary reading machine invented by Ray Kurzweil in 1976 and now, developing by Kurzweil Educational Systems.

5.5 E-Learning Process of "Helen Keller unit"

Twenty-one visually impaired students are registered (Academic Year 2005-2006) in various courses in Jawaharlal Nehru University, who are the regular users of the unit.

The students usually visit the 'Helen Keller Unit' located at JNU Library to acquire information stored in printed form (Hardcopy), soft copy, e-journals etc. through intranet and internet browsing, with the help of library staff and latest technical support available at 'Helen Keller Unit'.

The success of any service depends on the satisfaction ratio of their user. Only user could explain their needs and priority. Study of their information seeking behavior is helping to know their requirements and will be helpful for future developments in the field.

6 ANALYSIS OF DATA

6.1 Motivated by this service

Table-2 shows the attraction towards 'Helen Keller Unit' facilities at J.N.U. Library before their registration in J.N.U. Most of the students (58%) knew and motivated by this facility before registration. Only 17% students used these types of facilities before admission in J.N.U. All of them (100%) feel these facilities are user friendly.

Table-2: Motivated by this service

Object	Yes	No
Motivate for admission in JNU	58%	42%
Used these services before admission	17%	83%
User friendly	100%	

6.2 Service satisfaction

Table-3 presents the service satisfaction. All of them (100%) feel that these facilities are very helpful for information generation and Internet access. But surprisingly overall satisfaction ratio fall down

as 33% feel these facilities satisfied them 50% and above, 40% feel 60% and above and only 27% feel 80% and above. Major cause mentioned by them behind this down fall is low speedy and interrupted network service.

Table-3: Service satisfaction

Object	50% & above	60% & above	80% & above	100 %
Helpful in study		83	17	
Helpful for information generation				100
Helpful to access Internet				100
Overall satisfaction	33	40	27	

6.3 Use of services

As par as use of service is concerned, 33% visually impaired students spend 2-3 hours, 25% spend 4-5 hours, 9% spend 6-8 hours, 20% spend10-12 hours and 13% spend as per requirement per day are shown in Fig.1 entitled Use of services.

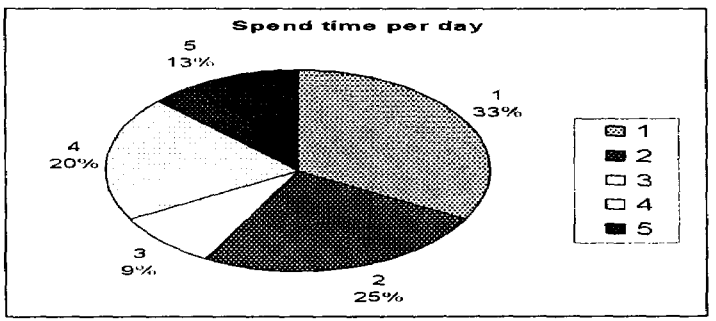


Fig. 1 Use of services

Equipment related opinion

In this section, we tried to know their views about the equipment having used in 'Helen Keller Unit' in JNU Library.

6.4 Usefulness of equipments

Table-4 shows that all the visually impaired students (100%) accepted that these services are more successful than traditional methods. Most of them (84%) feel happy with the types of equipments provided to them by the J.N.U. Library at 'Helen Keller Unit'. Hence as a result 90% of the users (visually impaired) are satisfied with the services.

Table-4: Usefulness of equipments

Object	Yes	No
Successful than traditional methods	100%	-----
Feels comfortable with the equipments	84%	16%
Satisfied with the equipments	90%	10%

6.5 Important services

Fig. 2 presents the important services, which are very important for learning process in today's fast growing IT age. 45% of visually impaired students indicates that internet is most useful for them, 30% of them feel computer with scanning facility is very useful and rest 25% feel other facilities like audio, printer, software for visually impaired are important for the purpose.

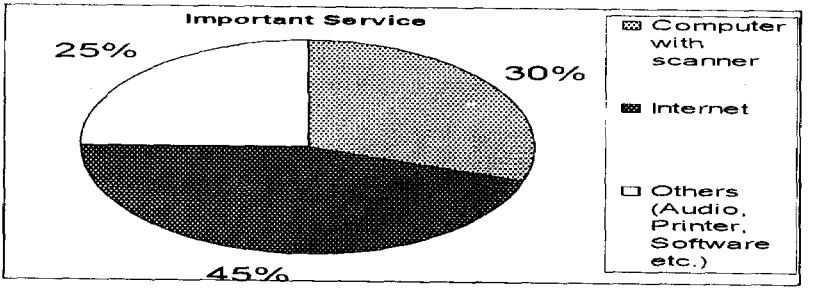


Fig. 2 Important services

Software related Opinion

In this section, we tried to know visually impaired students views about the software that they are using in JNU Library. These views are very important at the part of user friendly library service, which are following:

6.6 Helpfulness

Visually impaired students are using JAWS and Kurzweil software to fulfill their needs in 'Helen Keller Unit' at J.N.U. Library. Table-5 shows data about helpfulness. (75%) feel that both software provides support for text reading, 17% feel JAWS and 8% feel Kurzweil is more technically sound for text reading. 84% visually impaired users feel both of them not providing any kind of

technical help to understand graphics. But both softwares are useful for information generation. 67% voted for JAWS, 8% for Kurzweil and 25% for both the software. To keep all the features and points in mind 58% visually impaired students recommend both the software, 25% preferred JAWS and 17% preferred Kurzweil.

Table-5: Helpfulness

Object	JAWS	Kurzweil	Both	None
Helpful in text reading	17%	8%	75%	- ----
Helpful to understand graphics	8%	8%	- ----	84%
Helpful in information generation	67%	8%	25%	-- ----
Recommendation for use	25%	17%	58%	-- ----

6.6 Requirement to improve present services

Visually impaired students indicate towards some very useful services, which made this 'Helen Keller Unit' more important. Table-6 shows that 42% visually impaired users indicates that screen readable multi lingual software specially for Indian languages is very needful, 28% of them feel more Braille printer and bulletin boards for visually impaired will improve the use of the unit,13% of them feel necessity of screen readable library software and 17% of them feel membership for e-books browsing will help their study more.

Table-6: Requirement to improve present services

Object	Percentage
Multi lingual software(screen readable)	42%
More Braille printer and Bulletin boards	28%
Screen readable library software	13%
Membership for e-books browse	17%

6.8 Suggestions for future development

Visually impaired students feel that 'Helen Keller Unit' surely developed in future. For the purpose they give their valuable

suggestions, which might be, include in future development, according to their needs. Table-7 shows that 30% visually impaired students suggest for providing qualified staff's services to them, 25% of them gives importance to latest equipment, 17% feel e-library services will be more useful, 8% feel necessity of separate server and 20 % visually impaired students voted for tactile monitor.

Table-7: Suggestions for future development

Object	Percentage
Services by qualified staff	30%
Latest equipment	25%
e-library	17%
Separate server	8%
Tactile monitor	20%

7 CONCLUSION

For a combination of legal, technological and economic reasons, only a tiny proportion of published material ever finds its way into accessible formats, with all the exclusion from culture and education, which this implies. While some countries have exceptions in their copyright law to allow for the conversion of print into formats accessible to print-disabled readers without rights holder permission, many still do not. E-Journals, E-Books and internal based resources are the best sources for the visually impaired students. Internet services can be used effectively also, if all libraries have this kind of unit. It's difficult to withstand in the middle of rapid changes and development with clear perspective of where ICT will take the information needy. But there is a definite growth of open learning system, not only for common people but for specialized people also. The "Helen Keller Unit" established in J.N.U. Library for providing Information Service to specialized users is a humble beginning of a mammoth task. The future vision of this unit is to provide networked services to allover the country to the visually impaired students. In this fast changing networked environment, the Government and other agencies like ILA, IFLA, UGC, etc. should come together and serve better for all the specialized people allover the country.

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ANNEXURE-1

We are going to improve the facilities of 'Helen Keller Unit'. Kindly give your free and France opinion on the following questions.

Name:_____
Course:_____
School/Centre:_____

This questionnaire has three sections

First section: General Opinion
(This section has 12 questions)

Question1: Do you know about 'Helen Keller Unit' before registration in J.N.U.? If yes, is it motivating you?
Answer:

Question2: Have you used these types of facilities before? If yes, what's difference?
Answer:

Question3: Are these services user friendly?
(a) Yes
(b) No
Answer:

Question4: How do you learn to use these services?
(a) by the help of senior/friend
(b) by the help of library staff
(c) self
Answer:

Question5: What kind of help library provides to you?
(a) equipment related
(b) guidance related
(c) personal attendance
(d) any other
Answer:

Question6: How much this facility helps to your study?
(a) 80% and above
(b) 60% and above
(c) 30% and above
Answer:

Question7: Do you comfortably read and understand hard copy (printed) documents by the help of services available at Helen Keller Unit?
(a) Yes/No
(b) If yes, to what extent -10% to 100%
(c) any other comments
Answer:

Question8: Do you easily read and understand soft copy (presented on desktop) documents by the help of services available at Helen Keller Unit?
(a) Yes/No
(b) If yes, to what extent- 10% to 100%
(c) any other comments
Answer:

Question9: Is it helpful for information generation (typing etc.) for future research work?
(a) Yes
(b) No
Answer:

Question10: Do you feel confident now as you are in access to www/internet use for education?
(a) Yes
(b) No
(c) Any other comments
Answer:

Question11: Have to what % you satisfied with these facilities/services?
Answer:

Question12: How much time normally you spend in Helen Keller Unit?
Answer:

Second Section: Equipment Related Opinion
(This section has five questions)

Question1: Are these services more successful than traditional methods?
(a) Yes
(b) No
(c) Any other comments
Answer:

Question2: Do you feel comfortable with the equipments provided at Helen Keller Unit?
(a) Yes
(b) No
(c) Any other comments
Answer:

Question3: Are you satisfied with equipment's quality?
(a) Yes
(b) No
(c) Any other comments
Answer:

Question4: Which facility is more impressive to you? Please mention.
Answer:

Question5: Please mention if you need any other equipment, which facilitates you in better way.
Answer:

Third Section: Software Related Opinion
(This section has six questions)

Question1: How much happy you are regarding support for text reading?
(a) JAWS
(b) Kurzweil
(c) Any other
Answer:

Question2: Which software provides more technical support to understand graphics (images, pictures etc.)?
(a) JAWS
(b) Kurzweil
(c) Both
(d) None
Answer:

Question3: Which software is more information generation friendly?
(a) JAWS
(b) Kurzweil
(c) Both
(d) None
Answer:

Question4: Which software you recommended? Why?
Answer:

Question5: Do you need any other information technological help? If yes, please mention.
Answer:

Question6: Would you like to give any suggestion for future development?
Answer:

Thank you very much for your kind opinions.

INFORMATION LITERACY - CONCEPT AND PRACTICE: A CASE STUDY OF INFORMATION LITERACY IN A G D GOENKA PUBLIC SCHOOL

Madhu Bhargava*

ABSTRACT

Information literacy lessons connect classroom happenings with what can happen in the library and computer lab. In last two decades various Information Literacy Models have been developed, implied and improved upon. With Internet related globalization, some of the models are increasingly becoming popular in International Schools where multi-culture students study. American Association of School Librarianship develops a fine example of Information Literacy standards and Guidelines for school libraries. The paper examines the information literacy in school. Discusses the information literacy skills enables students to connect learning to life in relevant situations, which is connection between learning and life practices.

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INFORMATION LITERACY: A CHALLENGE AND NEED FOR THE RURAL COMMUNITIES

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Th Purnima Devi**

ABSTRACT

The paper discusses the need and importance of information literacy as an essential component in information society. The paper highlights the role of information and information technology as well as the relationship between information and literacy. This paper also studies the impact of ICT in rural areas and examines the awareness of the term like, information, information literacy, computer literacy etc. in the rural communities. Further, it elaborates the need for information technology literacy and challenges faced by the rural communities in the global information environment.

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INFORMATION LITERACY AND CONTINUING EDUCATION: A TEACHER'S VIEWS

Namarta Khairah*

ABSTRACT

The paper presents the concept and benefits of information literacy and concludes with continuing education.

1 INTRODUCTION

We live in an information intensive world. Information is an important ingredient in taking decisions making choices. Everybody needs it all the time to make sense of the environment around and make way through the world. Economic, political, technological military and social power of information is too obvious. It is a resource for all-round development. It is the most valuable possession any society has. Knowledge is culture passed on from generation to generation. It is also essential for gaining political power and for governance and planning. Governments disseminate information to highlight their effective administrative or public welfare works. At the same time information occasionally has caused embarrassment to governments of the day-- sometimes even leading to their down fall. Demand for information has led to information revolution. We seem buried under information avalanche. 24/7 TV, Internet and mass media, bombards us with unsolicited information. We are overwhelmed and inundated by the information deluge. But where is the information we need to become genuinely informed and take informed decisions? Most of it is trash, transient and a chewing gum for the eyes. Even so called infotainment is of no value. It is mostly commercial time-pass. We are struck with the paradoxical situation of water everywhere but not a drop to drink. At best it is a state of rich in information but starving for knowledge. Increasingly the information comes unfiltered whose authenticity, validity, and reliability is not proven. This uncertain quality, expanding quantity and variety of formats and media of

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information throw challenges to the societies and individual information consumer. Fascinated by its speed and enormity of size the users on the Web and other electronic and networked information resources are often stuck up in the morass of transient and trivial knowledge. On other occasions the tempting under currents while navigating an information network carries them away. Mere plethora of information cannot and will not create and informed citizenry. It is just like saying that earning a lot of money does not make you rich.

To use information meaningfully, information skills are essential. In information society the concept of information literacy has grown in importance. Information literate society should be the priority of any democratic and welfare government. It has many names, facets and models. It is essential for everyone, be it a manager, scholar, scientist or layperson for comprehension, legal and ethical use of information for purposeful and effective living in this society. Right use of information is as much important as its availability. But it may be understood that the information literacy (IL) is not the end : It is a means to an end.

In simple words IL means acquiring information technology skills, accessing information by identifying the right sources and formats, and using it critically. It is a mix of skills and ability to obtain, assimilate and apply the right information and knowledge for living, self-maintenance and making way in this complex but dynamic society.

Emanating from literal or basic literary and innumeracy the IL has been described as a gateway to cultural literacy. Concept of literacy has been expanded into information literacy that goes beyond traditional literacy including legal and computer literacy. It has its roots in bibliographic instructions, or even user education traditionally provided by librarians. It grew rapidly with expanding variety of information sources and formats.

It involves skills and experience to add value to the information accessed to apply and use properly. It is to function with ideas, values, objects and sentiment, for life long learning. IL is instrumental in continuing education of every professional – which is another vital necessity for fully living in the information society.

For developing IL skills the information profession at large not only the LIS professionals, have the responsibility. The whole body of political and education leadership has the responsibility to develop IL among the citizens, especially the netizens. It is the concern of all sections of the society. We need to identify and develop appropriate strategies tailored to suit individual information needs.

It starts in primary schools and continues up to the work place late in life. It has become a subject of study in its own right having legal, technical, social and psychological dimensions. In the national interest it should get prior place in the higher education Students studying special courses need additional competencies peculiar to that discipline. In India we have a long was to go to make IL all pervasive and enhance information capabilities of our large mass of netizens. Only then we can have true and effective democracy with reduced inequalities among citizens. Gullible masses of ignorant or inadequately informed citizens with voting rights are not democracy. They are pawns in the hands of wiley politicians and power seekers.

IL includes:

i) Visual Literacy ;
ii) Web Literacy ; and
iii) Media Literacy

Information Literacy Constitutes of:

i) Understanding the processes of identifying, accessing and delivering of information, both current and retrospective.

ii) Formulation of different search strategies to access relevant information.

iii) Evaluating the reliability of various information channels

iv) Mastering certain basic IT skills for e-readiness.

2 BENEFITS OF INFORMATION LITERACY

i) Expansion of knowledge through substantive operations of knowledge creation.

ii) Synthesis of data and information into knowledge.

iii) Appropriate and critical application of information and knowledge in problems solving.

iv) Enhancement of the critical thinking

v) Incorporation of validated information in the personal or corporate knowledge base.

vi) Motivation for self-directed learning.

vii) Appreciation for life long learning

IL skills are usually fostered through the use of active learning strategies. It is a collaborative work. A close cooperation of teachers, IT experts, librarians and administrators is required. Librarians need to be more pro-active to deliver IL instructions. There are many models But the one developed by the SCONUL's (Society on College, University and National Libraries; earlier Standing Council on National and University Libraries), Task Force developed seven skills to develop a novice into highly information literate are quite comprehensive:

These are:

i) Realising situation and state of information gap: Knowledge of one's ignorance.

ii) Ability to know ways in which information needs man is fulfilled. These involve:

   a) Knowledge of all sources of information

   b) Selection of relevant sources

   c) Knowledge of the issues effecting the access of sources, e.g., copyright, censorship, classified documents, documents with limited access within a library.

iii) Formulation of strategies to access information

   a) Statement of problem concisely

   b) Elaboration of strategies

   c) Understanding the principles underlying the database design

iv) Location and access of information

   a) Develop research techniques: Use of Keywords, subject headings, and Boolean operators.

   b) Efficient employment of IT

   c) Use of appropriate indexing and other secondary services.

   d) Keeping upto date through Current Awareness Services.

v) Information Evaluation Ability

   a) To know the authority and authenticity of the source.

b) To know any bias or limitation of sources.

c) Know the views of experts through peer reviewing.

d) Information customization

vi) Information communication ability

a) Knowledge of standards of citations and references.

b) Designing of personal bibliographic systems.

c) Critically applying information in problem solving or decision making.

d) Understanding legal issues concerning the use of information.

vii) Ability to create new knowledge based on the old knowledge, and developing new viewpoints. Making knowledge cumulative.

The SCONUL considers this model useful for education and assessment. But at the same time recommends that institutions must customize their model based on this general one.

Librarians and teachers have onerous task of training citizens for productive information work. They also need to work with political forces and policy makers

3 CONTINUING EDUCATION

Education and literacy are essential for the well being of the continuing education. Information literacy and continuing education are mutually dependent concepts. Knowledge is growing at such a fast speed that what is learnt at school or college soon becomes outdated. No body can rely only on that.

Today's truth becomes tomorrow's invalid or outdated concept. No body can depend on or work with the knowledge gained while being a formal student. There is always a need for constant learning. We need continued updating of our knowledge base to become informed citizens and relevant professionals. True and real education continues from cradle to grave. Training to keep students self-updated is the mark of education. This training should be how to use libraries and Internet resources optimally. Individuals who are unable to gather relevant information are almost as helpless as those who are unable to read and write. The real object of education is the training of the mind and to leave the learner in a condition of continually asking question. A self and

continued learner is a successful person. Only information literate and updated person is well equipped to carry out this responsibility.

It has been rightly said that education is what remains when everything learned at school is forgotten. Change is the only constant. Every new idea and theory runs it course only to be replaced by a better and more suitable one. A leader is always learning, said John F Kennedy. Information literate person has learnt how to learn.

Professionally speaking shelf life of degrees, especially in Bioengineering, computers and management are very short Libraries exist for public good. Libraries have a time-tested role in adult and continuing education. They have long connection with self-managed adult learning. Information literary is a guarantee of continued education and of being relevant to the society: and empowered citizens to seek the truth independent.

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INFORMATION LITERACY AND LIBRARIES: AN OVERVIEW

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ABSTRACT

Information literacy form the basis for lifelong learning .It is common to all disciplines, to all learning, environments, and to all levels of education. This paper highlights the concepts of literacy, traditional user education and information literacy. The dramatic changes in information technology and society are having a considerable impact on educational institutions and their libraries in India. People live in a rapidly changing complex and information-rich environment where information is growing at an exponential rate. Authors elaborate the role of the library in information literacy. In this paper, we also describe the various national and international organizations, which have participated in supporting upcoming activities in the field of information literacy. The suggestions focus on the information literacy instruction of the university libraries.

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INFORMATION LITERACY AND LIFELONG LEARNING: ROLE AND RESPONSIBILITIES OF LIBRARIANS IN FOSTERING A LEARNING CULTURE

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ABSTRACT

The paper illustrates the changes faced by the contemporary world in the light of globalization, shifting economic paradigms, and Information Technology. These three factors have profound effect on world of work, and characteristics of the modern workforce require lifelong learning and problem solving skills in order to survive and thrive. Information literacy is the tool to achieve life long learning. How Information literacy evolved as a concept and its essential components are discussed in the second section. Changing role of the librarian in fostering Information Literacy is demonstrated in the third section, and finally the competences and skills required by librarians to support their new role and responsibilities are briefly pointed out.

1 INTRODUCTION

World is undergoing a rapid change, and facing the challenge of change has become an everyday affair for all of us. There are several factors, which cause this change; globalization suggests world as a single place and affects the economies, policies and cultures of individual countries; nations, in order to compete internationally, are transforming from welfare states to evaluative states; Information Technology is the third factor which is revolutionizing the world. The real challenge is not mastering hundreds of techniques for manipulating data but understanding the forms of communication that IT makes possible. Besides, IT has swelled the production of information sources, challenging location and selection of most appropriate.

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World of work is highly influenced by these three forces. Information and knowledge are replacing capital and energy. Timely access to quality information has become source of instant power. The effect of this transformation is that knowledge workers are replacing physical labourers.

2 INFORMATION LITERACY

Information Literacy is defined as an individual's ability to: recognize a need for information; identify and locate appropriate information sources; know how to gain access to the information contained in those sources; evaluate the quality of information obtained; organize the information; and use the information effectively. (Doyle, 1992)

An information literate person is one who:

i) Recognizes that accurate and complete information is the basis for intelligent decision making
ii) Recognizes the need for information
iii) Formulates questions based on information needs
iv) Identifies potential sources of information
v) Develops successful search strategies
vi) Accesses sources of information including computer-based and other technologies
vii) Evaluates information
viii) Organizes information for practical application
ix) Integrates new information into an existing body of knowledge
x) Uses information in critical thinking and problem solving (Doyle, 1992)

3 ESSENTIAL COMPONENTS OF INFORMATION LITERACY

To promote Information Literacy within any country, several components are necessary. Identified standards of Information Literacy, an accepted Information Literacy model, and a conducive teaching/learning environment are the main components.

4 INFORMATION LITERACY STANDARDS

Several educational organizations have developed Information Literacy standards or guidelines, but the standards developed by

the American Association of School Librarians (AASL) and the Association of Educational Communications Technology (AECT) is the most prominent. They divide the characteristics of information literate person into three categories; *Information Literacy, Independent Learning and Social Responsibility.* These categories are sub divided into nine standards and under the nine standards twenty-nine indicators are defined.

Information Literacy standards specify the abilities needed to access, evaluate and use information critically and wisely. *Independent Learning standards* specify the characteristics of a self-motivated, life long learner. *Social Responsibility standards* emphasize teamwork, and respect for copyright laws and intellectual freedom.

The indicators under each standard portray demonstrable abilities relevant to each standard and those who teach Information Literacy can use these as guidelines to foster Information Literacy skills in students. (AASL/AECT,1998). Standard one of Information Literacy category and its corresponding indicators are given below as an example.

Information Literacy

Standard 1: The student who is information literate accesses information effectively and efficiently.

Indicators:

1. Recognise the need for information;
2. Recognise that accurate and comprehensive information is the basis for intelligent decision making;
3. Formulates questions based on information needs;
4. Identifies a variety of potential sources of information;
5. Develops and uses successful strategies for locating information. (AASL/AECT, 1998)

Any country, which plans to implement Information Literacy initiatives need to have a set of similar standards.

5 ROLE OF THE LIBRARIAN

Library has become the centre point of resource-based learning and the role of Librarian is changing radically with shifts of

education paradigms. The new pedagogic paradigm emphasises the empowerment of students and encourage them to take control of their own learning. The students become the learner and the teacher becomes the facilitator. The teacher centred school becomes a learner centred school.

In the teacher-centred learning environment, the Librarian was the organizer and guardian of the library; but now he/she must actively participate in planning of curriculum, resources and the teaching programmes. Role of the teacher has changed to a more facilitating nature than imparting knowledge. Teacher has only to guide the students while the librarian has to help the students with their independent learning tasks based on resources.

5.1 Enhanced Traditional Role

Information revolution has created far more information than one library could possibly contain. The librarian is responsible for locating, acquiring, disseminating and tracking information resources of many types. It might include database searching, interlibrary loans, monitoring Internet newsgroups, or maintenance of a computerized library information system. All these tasks involve managerial expertise. Librarians have to identify and select good age-appropriate and curriculum-specific literature. Knowledge of students and the curriculum remains the foundation of a good library service regardless of the format of the information provided or the source.

Librarians will have to look more too online and other electronic sources to meet the information needs. Acquisitions and selection criteria take on entirely new meaning when considering access to online services. Traditional materials evaluation measures have little meaning when applied to Internet sites. New paradigms of selection and evaluation evolve with new technologies and their application to the classroom and resource centre.

Librarians must become proficient in the use of the new technologies to promote them and instruct students and teachers in their use. As students become more self-directed learners, the librarian acts as a resource person in the students' quest for supporting information and the development of appropriate presentation strategies.

Requirement of a plethora of resources makes sharing of resources necessary than ever before. Libraries need to advertise their holdings to the world, offering to loan materials on a cooperative basis. Libraries, which participate in such arrangements, must be well versed in the collection development policy of the cooperative to properly plan and select materials to complement those available through diverse co-operative networks.

The librarian must also teach the ethical use of the materials retrieved. Copyright and plagiarism become significant issues when digital copies may be effortlessly integrated into student work. The librarian is often the only person in the library with any training in these legal issues.

As the responsibilities of the librarian increase, need for support staff increases. Librarian needs to supervise and evaluate the performance of technical and clerical staff and in house training of staff has to be carried out in a more planned manner.

5.2 Curriculum Related Responsibilities

Students today need to be able to think rationally and logically. Librarians must have skills in accessing and evaluating information regardless of the format, and in providing leadership in the appropriate use of information. It has been revealed that teachers have collaborated more in school when there is a librarian, and when teachers and librarians work together, students achieve higher levels of literacy, reading, learning, problem-solving skills and information and technology skills.

A fundamental responsibility of the librarian is to provide the leadership and expertise necessary to ensure that the Information Literacy skills are fostered among students. With respect to the librarian as an instructional consultant, Information Power (1998) has identified four curriculum related responsibilities:

i) participating in curriculum design and assessment;

ii) helping teachers develop instructional activities;

iii) providing expertise in materials and technology, and

iv) translating curricular needs into library media program goals and objectives.

Information Power expands these responsibilities into actions that are necessary for library media specialists to successfully fulfill their curriculum-related roles and responsibilities:

i) Library media specialists participate in building, district, department, and grade level curriculum development and assessment projects on a regular basis;

ii) Library media specialists offer teachers with assistance in using information resources, acquiring and assessing instructional materials, and incorporating information skills into the classroom curriculum;

iii) Library media specialists use a systematic instructional development process in working with teachers to improve instructional activities; and

iv) Library media specialists provide leadership in the assessment, evaluation, and implementation of information and instructional technologies.

While explanations of various authors differ in wording and emphasis, there is general agreement that librarians must be able to:

i) Provide necessary information and resources for curriculum;

ii) Consult on information use and related concerns in curriculum and instruction, and

iii) Work together with teachers to design, implement, and evaluate curriculum and instruction.

The way in which the librarian interacted with his/her clientele has changed with the change of education paradigm. When the education paradigm was lecturing librarians were involved in *user education*, which involved guided tours around the library, handbooks and group talks. With the advent of online databases, OPACs and e-journals the assistance of the librarian to users took a form of *tailored navigational support*. More specialised academic support in accessing and evaluating the technology-based information is provided at this stage. With the education paradigm shifting towards student centred, resource-based, independent learning librarian's interaction with the users shifted to *introducing information skills*. Subject librarian's contribution to a specific orientation programme designed by the faculty on different information sources, belongs to this category.

Integrating Information Literacy skills in the curriculum is the real zenith of the role of the librarian in fostering Information Literacy skills among students. To do this librarian needs a sound knowledge of the types of information sources, their location, use and evaluation. At the same time the librarian needs academic competences like curriculum designing, theoretical knowledge of learning and teaching and developing rubrics to incorporate different levels of information skills into the curriculum and needs to work together with the teachers.

6 NEW SKILLS AND COMPETENCES

Previous section discussed the various changes in the functions of the Librarian in the process of promoting Information Literacy. In order to fulfil these new and enhanced duties librarians need a multiplicity of new skills and competences as depicted in the following Fig.1 which is an adaptation of a model developed by Peacock (2001).

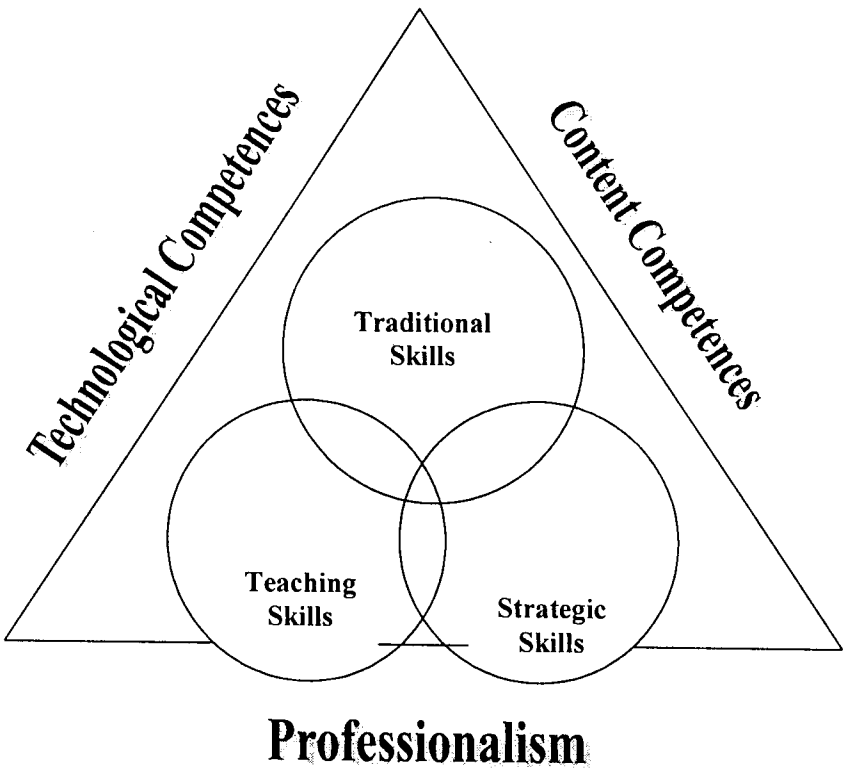


Fig.1 New Skills And Competences

Traditional Skills of a librarian; acquisition, cataloguing, classification and dissemination of information have to be enhanced to suit the changing information needs. Many librarians do not possess *teaching skills*, which are critical in the Information Literacy environment. Three types of teaching skills are required within this context; design of teaching/learning programmes, making effective presentations to suit the audience using a variety of visual aids, and evaluation of the programmes and their delivery. *Strategic skills* include communication, negotiation, justification, conflict resolution, and policy development, which assists the librarian in obtaining support of the administrators and other stakeholders in implementing Information Literacy, programmes. (Peacock, 2001)

These skills alone are not sufficient for an effective Information Literacy effort. They need to be complemented with several competencies. *Content competences* include, especially, the knowledge of information content so that the librarian can demonstrate an information expertise. On the other hand, in a lesser degree, expertise in one or more subjects taught in the school or university is necessary so that the integration of Information Literacy skills into curriculum can be done productively. The librarian in the context of Information Literacy must have advanced *technological competences* since the users have to deal with new technology-based information products. They call for expertise not only in locating, evaluating and synthesising of information, but also require effective manipulation of technological tools like Overhead or multimedia projectors, VCD/DVD players, CD writers and a multitude of such equipment. *Professionalism* serves as the foundation of all the other competences and skills because it provides the librarian with willingness to change the conventional role and embrace the new role of teaching librarian and most essentially with enthusiasm to engage in continuing professional development activities to enhance the skills and competences compulsory for practicing Information Literacy.

It is the responsibility of the library schools and library associations to provide education and training opportunities to the practicing librarians. In this endeavour library schools will have to offer continuing professional development events in collaboration with educators, curriculum developers and even federal and provincial ministries of education, because some of the relevant skills are not available within the library and information science discipline yet.

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INFORMATION LITERACY AND RIGHT TO INFORMATION

Babita Sharma*

ABSTRACT

Information literacy is a survival skill in the new information age, which is challenging the common man with abundance of information everyday. The paper presents the problems of information access, right to information. Discusses the shortfall of right to information act.

1 INTRODUCTION

Thus information literacy consists of ability or awareness to recognize the need for information, strategies to find and evaluate the needed information and then to use that information to make wise decisions or choices(C R Karisiddappa and H C Kavita, 2005). It is not only much more than the literal meaning of the binomial word, i.e. information and literacy (almost clear to every educated person) but it is also beyond knowing how to use an information center or how to find information for research. Computer competency is just one basic technique in getting, using and managing information (Kaufman, 1992). In fact it enables people to handle information critically and productively in any given situation by arming them with an integrated set of skills (research strategy, evaluation and knowledge of tools and resources). Thus making a person truly wise person ready to face the challenges of the new age.

2 PROBLEMS OF INFORMATION ACCESS

But whatever its meaning or characteristics one thing is very clear that information is needed to solve problems and to make right choices. Existence and availability of information are two different things. For example' what will happen if a person recognises the need of information and even has the ability to evaluate it to make

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wise decisions but do not have access to that information, as the information is in government domain strictly guarded by the official secrecy act or by over zealous babus or withheld by the corporate bodies to protect their commercial interests. There are many barriers to access an existing piece of information, namely physical, technological, linguistic, economic and lastly political. The last barrier is of two types, broadly speaking: (a) censorship (b) official secrecy act. Governments usually use this act to deny information to the public. Most of the time this power by the governments carried too far, even to the extent of denying simple and harmless information to the public or the person concerned. If a person does not get the right information at right time, the very purpose of IL gets defeated. Here the right to information or freedom of information acts come to the help of ordinary citizens.

3 RIGHT TO INFORMATION (RTI)

Next to the fulfillment of biological needs, what we need most is information. Information is a natural curiosity, and also a power to fulfill other needs like security and socialization. Freedom of information is the mother of all rights and liberties. Human beings can fully grow in an environment in which they have the freedom to know and express fearlessly what they know and feel. In a civilized world access to information is essential for citizens to exercise their rights and duties in a society. But free access to information especially when it is in government domain is not easy for common man. Governments of the world, whatever be their form have always treated information as a treasured possession." Being a potent tool to gain and maintain political power, the rulers have tended to be secretive, even zealots in possessing it and cruel in extracting it from others" (M P Satija)

With the emergence of the Internet we are witnessing "E-democracy" or "Digital democracy" It means" The participation of untold millions of individuals from every point of the globe in decision making and problem solving" (Jagtar Singh, 2003). But ignorant masses or inadequately informed citizens with vetoing rights are no democracy. Shrewd politicians can exploit them. Democracy means choice and a sound and informed choice is possible only on the basis of information. Democracy is no longer perceived to be a form of government, where the participation of people is only at the time of elections. The modern democracy embraces a wider concept of participation. The participation of people is essential in every decision making which affects their lives. The easily accessible information acts as a basic ingredient

to make choices and to participate fully in decision-making process. Better-informed voters mean better and informed choices, more responsive legislators and of course better governance. Progress of all types depends upon right decisions, which in turn depends upon right information at right time, to the right person. So the flow of information should be unrestricted.

3.1 Relationship between IL and RTI : Both information literacy and right to information are mutually related concepts. In fact they can be called complementary, as both need the help of each other to survive and work in an information society. Without IL, the RTI is diluted.

(i) Right to information and right to literacy, both are the basic human rights that protect and develop civil liberties.

(ii) Both are considered pre requisites for the successful working of a democracy.

(iii) Both came close and considered complementary in the late 20th century.

(iv) The initial stage of IL i.e. simple literacy is the pre condition for the success of right to information.

(v) Only an information literate person can rightly use the RTI as he/she is capable of deciding the what, how, where and when of information.

(vi) All the abilities of an IL person get wasted in the absence of an effective RTI act, as the basic ingredient of accessibility of information is missing.

(vii) Public awareness is an essential condition for the success of an RTI act & IL makes the public aware.

(viii) RTI is a way of empowering the citizens and IL provides fundamental support to it.

(ix) ICTs playa major role in the working of both, in fact these techniques are a basic necessity of IL and are also an essential infrastructure for the successful working of RTI.

(x) An IL society empowered by an RTI act can contribute a lot for the development of a nation and in solving its chronic problems like corruption and poverty etc.

(xi) The effective implementation of both the concepts and their mutual cooperation will lead to good governance, which is a need of the hour.

4 INDIAN SITUATION

After going through so many drafts presented by different bodies and several modifications the act came into its final shape. The RTI act must be hailed as a step towards strengthening democracy and democratic reforms in our country. It will help empower citizens with the right to know. Crucially it will keep the lawmakers and elected representatives on their toes and make them accountable for their work or the lack of it.

Some of the worth mentioning features of the act are as follows:

i. It will apply to the whole country except Jammu and Kashmir and will cover governing bodies at all levels including government added institutes.

ii. This act has fulfilled the long-standing demand of RTI supporters by bringing under its jurisdiction the security agencies (which otherwise are exempted) when the case pertains to human right violation or corruption in these agencies.

iii. General public is kept at par with their elected representatives. MPs and MLAs can obtain information directly from any departments instead of the old tradition of asking the minister concerned.

iv. Besides the provision of having every department its own Assistant public information officer (AIPa), Public information officer (PIO) and appellate authority, there is an independent state information commission and central information commission. These bodies have to present their annual report to their respective governments regarding their activities, which further is kept before the parliament or assembly as the case may be, by the respective government.

v. The provision of daily fine of Rs 250 on denial of information by any public authority is a welcome step and will lead to better and quick response on the part of public authorities.

vi. The exemption of people below poverty line from paying any fees for obtaining information is another outstanding feature supplemented by the facility to have information in the format and language of ones choice.

vii. Any types of motivated amendments are discouraged. An amendment to the act can only be made if there is any difficulty in the execution of the act & it should not be after the expiry of two years of the commencement of the act.

viii. This law protects and respects the privacy of every individual

5 SOME SHORT COMINGS OF THE ACT

i. India is the only democracy that lacks a clear policy of releasing Government records into the archives for use by researchers.(*Hindustan Times,* Oct 1st 2005), "By removing the provision for making all documents available for public perusal after 25 years, the government has ensured that exempted information will remain in a permanent black hole"(Aruna Roy, 2005).

ii. Appointment of information commissioner is prone to bias, A selection committee comprising of prime minister, leader of opposition and a cabinet minister is suggested for the purpose. At the state level PM is to be replaced by CM. The dominance of the committee by political leaders may lead to bias & political horse trading (Aditi Datta and C Rodrigues, 2005).

iii. A range of security & intelligence agencies has been entirely exempted from the law even at the state level. Though the exemption does not apply if the case pertains to an allegation of human rights or corruption in these agencies.

iv. The method of imposing fine is also confusing. It is not clear how a daily penalty can be levied for destruction and falsification of records or the deliberative provision of in accurate or inadequate information. Another provision permits penalties for "persistent failure to provide information without a reasonable course". But how would one prove persistent failure. And even where it could be found, the appellate authority cannot impose the penalty themselves, but refer the case to a magistrate (Maja Daruwalla, 2005).

v. Lack of provision for prison sentence even for serious offences is another big weakness. What if someone deliberately destroys documents revealing major corruption or human right violation? Severe enough penalties must be available to fit the crime.

vi. The procedure of departmental inquiry is also not acceptable to the RTI supporters as this is considered a delaying tactic. Sometimes if the highest authority is guilty. the inquiry is headed by a junior officer, which is prone to

bias, as in the case of Nagarwal in Railway department (Amit Bhaduri, 2005).

vii. The emphasis is put on DTF (duty to furnish) information on request. instead of this if the information is provided suo-moto or before the start of any project so many hurdles can be avoided like corruption or agitations. Glaring example is the case of Narmada Sgaar Dam vis a vis Sardar Sarovar project (P J Shah, 2005).

viii. The information requested by one person should automatically published for the entire public if its no privacy is connected with it, this is to avoid repetition, as is done under Delhi RTI act.

ix. It is learnt that the government is planning to amend the act by exempting the file notings from public scrutiny. This will seriously harm the spirit of the act and is not acceptable to RTI supporters (Maja Daruwala, 2005a).

x. Along with RTI act we need a Whistle blowers act & lokpal act also against intimidation and victimization of those who dare to expose the wrong doings of their respective departments.

xi. Under the act state governments are empowered to make their own rules to implement the Act, this may cause confusion as the rules may sometime conflict. In case of such conflict which rule will be followed. Sometimes the rules may differ if not in conflict, like the center has notified Rs 10 towards application fees and Rs2 for each page of information requested but the state of Karnataka has set the fee as Rs 100/- (Mandakini Devasher, 2005).To make the act effective rules should be uniform across the country, all existing state laws should be declared null and void after the implementation of the central act.

xii. Attention needs to be paid to the effective management of information resources in government domain and the role of government officials in dissemination of information. Although most of the departments and agencies like UGC has issued instructions to their respective subordinate offices for the implementation of the act, but the real problem is to change the mindset of the implementers. Their traditional and colonial mind cannot be changed overnight. Usually the official websites are not updated periodically and higher officials do not bother to check their mailboxes (*University Today*. Aug 15th 2005).

6 CONCLUSION

An effective RTI act will surely help to develop a culture of democracy, which is mandatory for good governance. Endemic corruption in our democratic system can be fought through public monitoring of government policy and action, but merely by having an act does not solve the purpose. More needs to be done. Public awareness is the first pre requisite, which will come through literacy especially information literacy,

Fortunately we already have *right to education* as a fundamental right in our constitution. But public need information literacy to achieve the desired end. The RTI was passed after a long struggle, now it is the citizen's duty to familiarize themselves with its provisions to make its effective use. The media and NGOs are going to playa great role in educating and informing the public. Honesty and dedication of course and work is expected from them in order to fulfill the real aim. "The press has tremendous power to inform but also the power to misinform, distort and conceal. Let the journalists jealously guard their credibility and remember that their job is to inform the reader and not act as a mouth piece of any body"(S K Mittal, 2005). The role of libraries & librarians is also going to increase in the days to come, but as usual their role is totally ignored by the lawmakers. It is a serious lapse, which needs to be amended immediately. Public libraries can play an effective role in making citizens aware of their right to information. Conversely Information Commissioners in states can avail the expertise of librarians in handling, storing and delivering information. Librarians with their professional skills can keep both the authorities as well as the public.

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INFORMATION LITERACY

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ABSTRACT

Information literacy is the ability to use information. It is a holistic concept that includes knowing that Information matters knowing where and how to get information knowing how to interpret information and knowing how to use and communicate information. The paper presents the concept of information literacy and discusses how to become information literate.

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INFORMATION LITERACY COMPETENCY STANDARDS FOR HIGHER EDUCATION AND ITS IMPLICATION IN INDIA

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ABSTRACT

The paper introduces with the term Information Literacy. Enlightens the importance of Information Literacy (IL).

States relation of Information Literacy and Higher Education. Developing lifelong learners is central to the mission of higher education institutions.

Studies the information literacy standards for higher education in USA. Furthermore, it also studies the same standards in Australia and New Zealand.

Concludes with suggestions for formulation of Information Literacy standards in India with National Information Literacy Commission with the help of governmental and non-governmental agencies/bodies under the guidance of Ministry of Human Resource Development.

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INFORMATION LITERACY FOR THE COLLEGE TEACHERS OF KOLKATA: SOME OBSERVATIONS

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ABSTRACT

The paper presents an outline for the information literacy for the college teachers of Kolkata, capital of West Bengal. Concepts of the terms like 'Information', 'Being Informed', and 'Information Literacy' have been discussed. Academic, Administrative, Research and other roles of the College Teachers of Kolkata have been delineated. The changes in the role models over the ages have been discussed. The infiltration of Information and Communication Technologies into the teaching arena and the over-all effect over the teachers along with their survival strategies has been depicted.

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INFORMATION LITERACY: IT'S IMPACT ON TEACHING AND LEARNING IN 21st CENTURY

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ABSTRACT

The paper discusses the modes of teaching and learning and the necessity of integrating information literacy for improving the quality of education in 21st century. Information literacy can be included in the curricula at various levels of academic activities by utilizing the existing IT infrastructure in the form of networks, e-journal consortia, internet resources, etc

1 INTRODUCTION

The information literacy is defined as ability to identify, locate, evaluate and efficiently use the information for the issue or problem in hand. The term information literacy has been used as collective term covering all or several of literacies, viz., computer literacy, digital literacy, hyper-literacy, information technology literacy, interactive literacy, Internet literacy, library literacy, media literacy, multiple literacy, network literacy, oral literacy, and visual literacy.

These literacies need to be developed and maintained throughout life, not only by information users, but also by librarians and other information workers (<http://www.ifla.org>). The whole concept of information literacy is to move from text-based learning to resource-based learning.

2 TEACHING AND LEARNING

Teaching and learning are the integral part of any education system, which require information literacy. Without imbibing information literacy skills, the teacher cannot deliver the lecture efficiently.

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It is being felt that in the 21st century, lecturing would not be the most efficient way of educating students. There are number of instances in Passive learning where students have got the frustration that they have not learnt anything from the lectures and teachers have also got frustrated that students were not learning from their traditional way of teaching.

Contrary to Passive learning, Active learning is a method of educating students that allows them to participate in class. It takes them beyond the role of passive listener and note taker and allows the student to take some direction and initiative during the class. The role of the teacher is not only to give lecture, but also direct the students in directions that will allow the students to discover the material as they work with other students to understand the curriculum. Active learning can encompass a variety of techniques, which include small group discussions, role-playing, hands-on projects, and teacher driven questioning. The goal is to bring students into the process of self-learning.

Therefore teaching and learning are two components, which have got their importance in information literacy. The inclusion of information literacy in school as well as higher education is the only way of narrowing down the gap of passive and active learning

2.1 Role of Teacher

The role of the teacher is to develop in students, the lifelong literacy concepts because it recognizes the impact of the speed of change and the penetration of new knowledge and technologies.

Different methods and instruction modes are advisable for different learning styles and for different resources. Since one method does not fit in all cases, any and all of the following methods are recommended depending upon the situation and learner.

(i) By giving regular assignments to the students;
(ii) By asking them to collect the references on the given topic by both electronic and manual mode;
(iii) To ask them to make a small group for discussion and questioning;
(iv) Giving students time to give responses, do not rush them;
(v) Rewarding students for participating by praising them or paraphrasing what they say;

(vi) By giving hands on experience;
(vii) To prepare them for seminar presentation;
(viii) To arrange them the workshop for special applications;
(ix) Bringing consultants and experts to the campus, in person or via video conferencing, satellite programming, etc.; and
(x) To provide sufficient staff to deliver the help and support needed (5, Eugene, 1998).

Sometimes it may be the case that teacher is not well prepared. He does not keep himself up-to-date with the current knowledge in the field of subject in question. In remote areas they do not know how to use the Internet and go on teaching with the old materials, which he had collected long back.

In such cases, it is advisable to have some form of committee, which may judge the performance of teachers and organize different types of courses to keep the teachers up-to-date with the current technological development in their field of activity.

2.2 Role of Learner

The learner should have the ability to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information

He/She must have quality to:

(i) recognize that accurate and complete information is the basis for intelligent decision making;
(ii) recognizes the need for information;
(iii) formulates questions based on information needs;
(iv) identifies potential sources of information;
(v) develops successful search strategies;
(vi) accesses sources of information including computer-based and other technologies;
(vii) evaluates information;
(viii) organizes information for practical application;
(ix) integrates new information into an existing body of knowledge;
(x) uses information in critical thinking and problem solving; and
(xi) uses information ethically and legally.

By using the information literacy skills in learning, the learner will involve a drastic change from the way many students are accustomed to learning. First of all it requires students to be self-directed in their learning. This kind of independent active learning prepares students for real life problem solving (Gordon,1989).

In becoming information literate, students will assume more responsibility for their own learning either individually or in work group. As students become more competent with their use of information resource option, they become aware of their individual styles of learning and preferred ways of assimilating knowledge (Bleakley, 1994)

One successful method for developing information literacy skills is through resource based learning which involves students to assume more responsibility for locating the very materials from which to learn. This approach develops lifelong learning skills because students are learning from the same sources which they will come to use in their daily lives such as books, newspapers, television, databases, government documents, subject matter experts and use of thesaurus. Resource based learning provides an added advantage by allowing students to choose materials that matches their academic levels and preferred learning styles.

3 NEED FOR INCLUSION OF INFORMATION LITERACY IN EDUCATION

The greatest challenge for society in the twenty first century is to keep pace with the knowledge and technological expertise necessary for finding, applying and evaluating information. It is acknowledged that we live in an information-rich society where the amount of information in the world is presently doubling every three years [9]. Therefore it has become necessity of 21st century to include information literacy in education.

Information literacy makes the students beyond the role of passive listener and note taker and allows them to take some direction and initiative during class .The main purpose of including this in education system is to direct the students that will allow them to discover the material they work with fellow students to understand the curriculum.

By gaining this skill through education system, the students are involved in activities like reading, discussion and writing. Information literacy plays a transformational role in building the

information capability at large. It is rightly said that the cultural and educational opportunities available in a community are often missed by people who lack the ability to keep informed of such activities therefore it is a means of personal empowerment. It creates the habit of lifelong learning.

USA and Australia have already well developed information literacy programmes for undergraduate students.

In India lot of emphasis is being given to create infrastructure in the institutions where various types of professional/Academic courses are being taught but due to lack of appropriate Information Literacy Programme, students do not know from where they have to search for the information, what are the in-house/external sources, available in their field of activity. In case they know about the sources, they are not capable enough to use the right search strategies to locate the information. So it is very much evident that without missing the Information Literacy concept in our education pattern, the knowledge of the students will be limited and if by chance, they choose the teaching career, they will create hindrance in national building.

Honorable President Dr A P J Abdul Kalam's vision "Indian millennium 2020" can transform India as a developed country by the year 2020. It means that by this time India has to achieve at least 90% literacy rate as literacy rate has direct relevance with Information literacy (Choudhury and Shah, 2004)

It is evident that in India, the students of Metropolitan cities are more information literate than other cities. Digital libraries and distance education can play a significant role in these areas provided electrical & telecommunication facilities are available in these areas.

In order to develop information literacy skills at school and Higher Education system, the concept of information literacy may be included in the curriculum; it should also be made compulsory under teacher training schools are the places where prime importance for information literacy should be given by integrating information literacy skills across the curriculum in all subject areas. Educational institutes that produce lifelong learners should be engaged in some fairly basic rethinking of how teaching faculty and information specialists can work together towards this end. It is no doubt requires a proper planning, building up a proper infrastructure, Here the role of teacher should be to identify the

learning needs of the students. It is seen that those academic institutes where the concept of information literacy has been included has strong commitment to excellent educational outcomes for the students in the areas of critical thinking, problem solving, and information skills

4. NFORMATION LITERACY: GLOBAL SCENARIO

The idea of information literacy, was conceptualized long back in European countries in 1970's and now recognized as critical literacy for the twenty first century. Today information technology is inextricably associated with information practices and critical thinking in the information and communication technology environment (Bruce,2002).

Since 1974, information technology has been an area of increasing interest to library and information professionals. However, majority of publications came from United States and Australia

The information literacy movement in the United States (Behrens, 1994) and Australia (Bruce, and Candy, 2000) was quite extensively analyzed and discussed and there may be significant initiatives in these countries. In USA, The National Forum on Information Literacy was established in 1989, the Institute for Information Literacy in 1998, while two sets of Information Literacy standards was developed in school sector and the higher education sector. The United States Department of Education included information literacy in national education technology plan as one of the five goals in December 2000 (Virkus, 2003).

The concept of information literacy has also permeated strategic thinking in Australia and has been highlighted in several reports produced by higher education sector and by the Govt. such as The Council of Australian University Librarians (CAUL), The Association of College of Research Libraries (ACRL) and information literacy strategies have been integrated into many university institutional plan.

The Palo Alto College, Ohio, USA took the leadership in this area of growing importance of academic areas. A required course (3 semester) in Information Literacy in the core curriculum would prepare PAC Students with both the tools and the concept to successfully deal with information-intensive courses. research papers. prepare for speech assignments, do historical background

research, face the practical questions of everyday life{15].By such type of courses the students are well prepared in the area of retrieval and evaluation of electronic and print information, networked information system, traditional scholarly resources, evolving delivery system, concept underlying the research process and providing understanding of importance of Internet as research tools and changing nature of information resources.

An analysis of Information Literacy in US Library and Information Science School is based on nearly 30 years of research that indicated a significant trend towards inclusion of information literacy curriculum

Information literacy program team of National Literacy Board (NLB) Singapore established in Sept 1995 is engaged in development designing and delivery of Information Literacy training [16]

The primary purpose of Information Literacy section in IFLA is to foster international cooperation and to promote Information Literacy in all types of libraries. The goal is to focus on all aspects of Information Literacy, including user education, library instructions, bibliographic instructions etc.

The workshop on Information Literacy was recently organized by IFLA on 22-27th Aug'05 in Buenos Aires, Argentina [17].

When comparing developed and less developed countries regarding the situation of promotion and implementation of information literacy, we see in developed countries the following:

(i) strong massive movements and networks of organizations and professional association engaged on the information literacy promotion and implementation,

(ii) well developed library & information system and networks;

(iii) a significant turning of school and universities' attention to the lifelong skills of learning how to learn, that is of educating pupils and students to find, evaluate and effectively use information;

(iv) well educated and trained information & library professional and enthusiastic educators acting energetically and in many cases of self initiative;

The major obstacle in promoting Information Literacy programme in developing countries like India is lack of public awareness of the problem created by information illiteracy. To accomplish this, Indian forum for information literacy should be formed at each state level.

5.1 National Curriculum for LIS Education

In India recently, a national committee of experts including practitioners, teachers and scientists made outstanding efforts in designing the National Curriculum for LIS education. This committee is approved by UGC, Govt. of India.

The committee has very practical and feasible approach keeping in view of contemporary development in the job market and examining the existing curriculum in developing countries has developed a modular curriculum, which suits the different level of education in LIS.

Further more 60% of course contents are taught by conducting practical sessions in which in addition to giving the hands on experience, assignment, seminar presentation and demonstration by LIS students are compulsory components in curricula.

The special features of UGC model curriculum (LIS) has clearly stated objectives for each module, utilized syllabi, special instructions to emphasize the theoretical and practical sheets and indicates the implied concepts of Information Literacy in LIS Curricula (Karisiddappa, 2004).

5.2 DU Initiative

Delhi University (DU) has decided to launch an e-platform to integrate IT with education. The focus will be mainly on distance learning and digitalization of library resources.

The e-platform will go beyond classroom learning and help students to understand their textbook material. In case of students missing classes in order to clarify their doubts, the platform will help students to catch up with the classes online or interact with faculty members of different colleges in DU. Moreover it will be a repository of information which may not be examination specific, but would help further student's interest in certain areas of learning

(v) plethora of information literacy curricula and syllabi, many of them available on internet, accompanied by innovative approaches of how to teach information literacy (objectives, standards, measures); and

(vi) users who have been through their schooling been exposed and have been taught to use the rich and well organized information resources [18].

To promote Information literacy in South and South East Asia, an international workshop was organized on 3-7th Oct 2005 at Punjab University in Patiala with the support of UNESCO and other partners.

The best way to promote information literacy globally would be to carry out joint projects on which professionals from developed countries and less developed countries, who would work together, drawing upon the valuable experience in information literacy promotion and implementation achieved so far. These joint projects should be tailored to help individual countries to intensify and broaden their existing activities on information literacy promotion and implementation and start new ones where necessary

5 INFORMATION LITERACY: INDIAN SCENARIO

Following are the bottleneck for promoting information literacy in developing countries like India

(i) lack of cooperation among professional organization and lack of well articulated and / or promoted information literacy policies and programs;

(ii) underdeveloped library & information systems and networks;

(iii) expensive telecommunication infrastructure services;

(iv) shortage of information & library educated and trained professionals who would give the necessary impetus to the information literacy promotion and implementations;

(v) intimidated users who are not so well acquainted with the nature of information and its creation, how information is published and disseminated (the pattern of flow of information within a discipline), that is without the mental map of information and publication world. There is a digital divide between developed and developing countries.

6 CONCLUSION

It is evident that due to paradigm shift from traditional libraries to virtual and digital libraries and due to seamless connection to Internet based services; availability of computer & telecommunication technology makes information more accessible and thereby helping to improve the Information literacy. India has got vast amount of information resources, but in order to utilize these local/international resources, one must be information literate. It means that without adding information literacy concept in the academic curriculum, it would be difficult for the information seeker to find out the best possible sources available in their field of interest. Even if information seekers are able to find out the sources, they will not be in a position to form the search strategies, which are necessary to make the relevant searches. They would not be able to understand what is appropriate to the situation and with lack of information literacy concept, one would not be able to present and communicate the data and findings effectively. In order to bring the concept of Information literacy as a whole, one must not forget the rural community of India. Efforts should be made to develop the villages' community library & information centers with the collaboration with rural public libraries and full assistance should be given to them to make the villagers information literate. In this direction, UGC, IGNOU, DU and other distance learning centers are making efforts in India.

In nutshell, it is concluded that information literacy in academic curriculum is an ardent necessity, because it takes the students/users beyond the role of passive listener, note taker and allows them to take some direction and initiative in the class and make them lifelong learner. Information literacy also encompasses variety of techniques that include small group discussions, role-playing, hands-on-projects, teacher driven questioning, developing insights, critical thinking, problem solving judgments and ability to make predictions.

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INFORMATION LITERACY: MODELS FOR TEACHING AND RESEARCH

D Chandran

ABSTRACT

Information literacy is no longer just a library issue. It is the critical campus wide issue for the twenty-first century, of keen importance to all educational stakeholders, including administrators, faculty, librarians, media and information technologists, student affairs personnel, career development professionals and others. The paper presents the concept of information literacy. Discusses different models for teaching and research.

1 INTRODUCTION

Information literacy is a prerequisite for lifelong learning and is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to engage critically with content and extend their investigations, become more self-directed, and assume greater control over their own learning.

2 INFORMATION LITERACY v/s COMPUTER LITERACY

The term information literacy is exacerbated by the fact that it is sometimes used to refer to computer literacy, internet literacy, media literacy, digital literacy or library literacy. Most often information literacy is used when computer literacy is meant--when these are in fact two very different things. Computer literacy is confined solely to competency in the use of a computer--whether it is software or hardware. Information literacy encompasses much more than a machine-based competency.

As everyone else has produced a definition, we thought we would come up with our own: at the moment (2003) it is:

""Information literacy is the adoption of appropriate information behaviour to identify, through whatever channel or medium

information well fitted to information needs, leading to wise and ethical use of information in society

Information literacy is an understanding and set of abilities enabling individuals to 'recognise when information is needed and have the capacity to locate, evaluate, and use effectively the needed information'.

An information literate person is able to

i) recognise a need for information;
ii) determine the extent of information needed;
iii) access the needed information efficiently;
iv) evaluate the information and its sources;
v) incorporate selected information into their knowledge base;
vi) use information effectively to accomplish a purpose;
vii) understand economic, legal, social and cultural issues in the use of information;
viii) access and use information ethically and legally,
ix) classify, store, manipulate and redraft information collected or generated; and
x) recognise information literacy as a prerequisite for lifelong learning.

To speak information literacy is a set of abilities that allow a person to recognize when information is needed and to effectively and efficiently act on that need.

3 MODELS OF INFORMATION LITERACY

There are a large number of Information Literacy, Research, or Information Problem Solving models available for teachers to use with pupils. Below is a selection of some of them

3.1 The Big 6 : The Big6 is an information literacy model. Some people call it a metacognitive scaffold, or an information problem solving strategy. When you apply these stages, you have an essential framework to approach any information-based question. Here are the six stages we call the BIG6. Two sub-stages are part of each main category in the Big6 model:

a) **Task Definition**
- Define the information problem
- Identify information needed

b) **Information Seeking Strategies**
   - Determine all possible sources
   - Select the best sources
c) **Location and Access**
   - Locate sources (intellectually and physically)
   - Find information within sources
d) **Use of Information**
   - Engage (e.g., read, hear, view, touch)
   - Extract relevant information
e) **Synthesis**
   - Organize from multiple sources
   - Present the information
f) **Evaluation**
   - Judge the product (effectiveness)
   - Judge the process (efficiency)

People go through these Big6 stages—consciously or not—when they seek or apply information to solve a problem or make a decision. It's not necessary to complete these stages in a linear order, and a given stage doesn't have to take a lot of time. We have found that in almost all successful problem-solving situations, all stages are addressed.

3.2 **RAC** (Research, Analyse, Communicate)
RAC model, which is used to plan and deliver meaningful instruction and technology integration in the performance based classroom. The RAC Model™ is an instructional planning framework that uses research, analysis and communication to teach students and assess their understanding of the required curriculum. RAC model, which is used to plan and deliver meaningful instruction and technology integration in the performance based classroom.

The RAC Model™: embeds state and local curricular requirements

- ❖ makes learning student centered
- ❖ provides opportunities to assess student products and performances
- ❖ is easily incorporated in the performance based classroom
- ❖ engages students in critical thinking
- ❖ gives students the opportunity to apply essential research, analysis, and communication skills

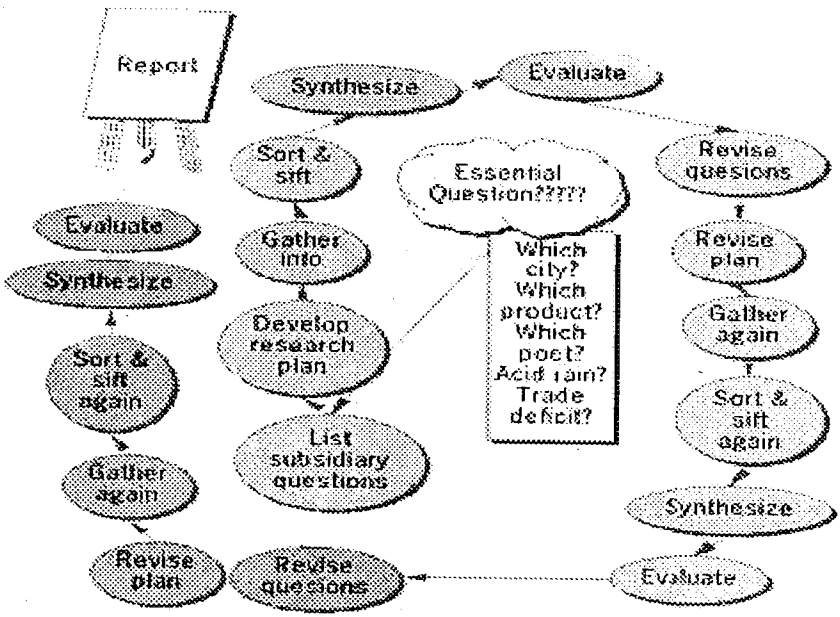
Benefits of using the RAC Model in a performance based classroom are

- ❖ A meaningful context for the application of skills is easily integrated into
- ❖ The RAC ModelStudents apply content, skills, and processes as required by state and local standards
- ❖ Application of thinking is embedded through the analysis component of The RAC Model

3.3 Research Cycle (McKenzie)

Research Cycle in a concise and user friendly manner. The Research Cycle puts students in the role of information producers. The process involoved in the Research Cycle below:

QUESTIONING
PLANNING
GATHERING
SORTING & SIFTING
SYNTHESIZING
EVALUATING



3.4 Infozone

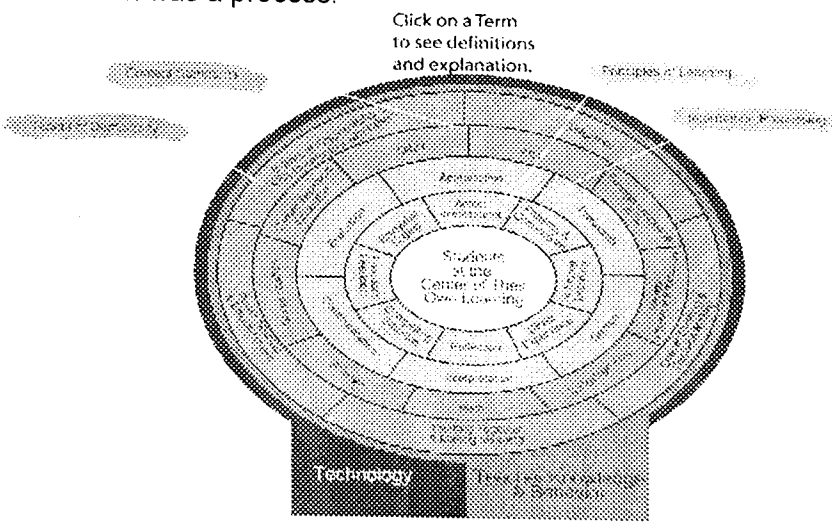
(http://www.assd.winnipeg.mb.ca/infozone/wonder.html)

InfoZone *from the Assiniboine South School Division of Winnipeg, Canada.* This was one of the first websites that incorporated an information process model and made use of web resources. It includes the following phases:

- Wondering
- Seeking
- Choosing
- Connecting
- Producing
- Judging

3.5 Follett's Information Skills Model (The Pathways to Knowledge Model)

The Pathways to Knowledge® Model was developed and revised by Marjorie L. Pappas and Ann E. Tepe based on their experiences as school librarians working with students engaged in the research process. The stages and strategies were included based on the body of knowledge emerging from many studies by school library researchers and the experiences of practitioners. The most significant of these studies was the work of Carol Collier Kuhlthau, whose research established that gathering and using information was a process.



3.6 The Research Process (Schulz) : the process involves the following steps :

a. Define Your Topic

b. Develop a Plan for Your Research

c. Find the Information You Need
d. Evaluate the Information You Find
e. Enough is Enough!
f. Organize, Cite, and Present your Information
g. Evaluate Your Project

3.7 The Alberta Model

There are many process-based models of library instruction. This work is reflected in the model for teaching the research process developed by the provincial ministry of education, Alberta Education. The foundation for that was laid down in Alberta Education policy in the 1980s.

Based on that policy, a program delivery model was developed called *Focus on Learning* (Alberta Education, 1985) which emphasized the instructional role of the school library and the teacher-librarian. *Focus on Research* is a five-stage model, with one element common to each of the stages,

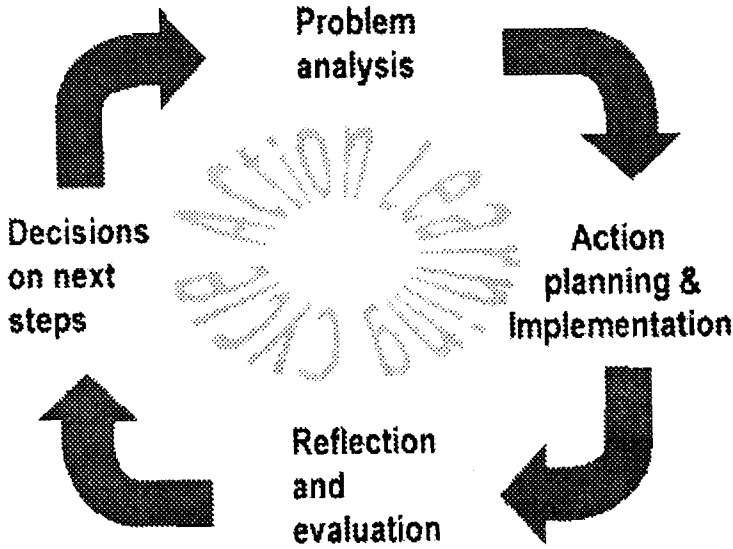
Planning
Information Retrieval
Information Processing
Information Sharing
Evaluation

3.8 Kuhlthau Model

a. Initiation
b. Selection
c. Exploration
d. Collection
e. Search closure
f. Presentation

3.9 Action Learning Model

Action-learning describes a process whereby employees undertake specific assignments *for the purpose of learning from doing those assignments.*



- decide
- search & finding
- using & analysing
- recording
- presenting & communicating
- evaluating

3.10 3 Doors

3Doors to InfoLiteracy is a research-based, trademarked learning model and programme developed by Dr Gwen Gawith. The 3Doors to Infoliteracy® model is based on years of research into the challenges students face when making critical and creative use of information.

3Doors hinges on twenty learning actions, grouped into three categories, the three doors.

AIM : opens to knowing what you need to learn, how 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 - analyse, evaluate, synthesise and interpret it to build understanding and knowledge

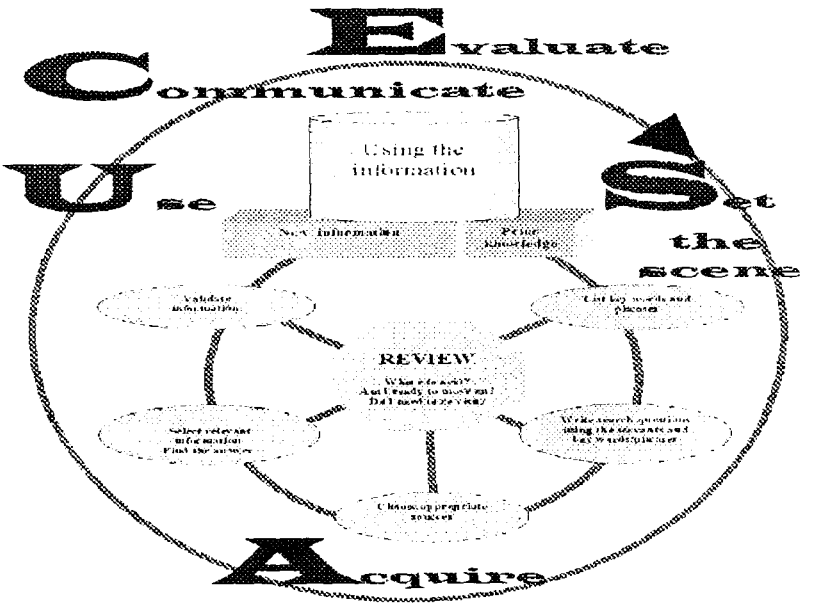
FRAME : opens to frames for designing and communicating learning processes and knowledge clearly, concisely and accurately, using a range of media and technologies

3.11 Lane Clarke's Model

With a focus on teaching learners how to think and how to learn, through a holistic and authentic approach, which infuses technologies seamlessly, Ideasys empowers teachers to prepare learners for their future

3.12 SAUCE (Information & Problem Solving Process)

SAUCE is a research and problem solving process aimed to provide information literacy skills for learners to use in problem solving and research



4 INFORMATION LITERACY IN INDIA

A number of programmes and models have developed in India. These programs are quite diverse but share a common framework

as they were created to ensure student success in the Information Age both in the classroom and beyond. Successful programs are generally tied to the general education or core curriculum of the institution and address general accountability, outcomes measurement or assessment. Examining the role of information in our lives and integrates information literacy into members' programs.

5 CONCLUSION

The various efforts on behalf of information literacy represent an extraordinary convergence of several forces concerned with education: accrediting agencies, state legislatures, employers, and university administrators, faculty, and librarians. In addition, it reflects some of the most progressive thinking on pedagogy. It takes into account the changes wrought both in the academy and in the society of which it is a part by the rapid development in computer technologies. But despite all of these forward-looking elements, information literacy also looks back. It is founded upon some of the oldest goals of education: to inculcate a spirit of critique and independence of mind. This is what literacy, whether of information or of anything else, must be for: particular students, not for employers, accrediting agencies, legislatures, or ourselves, but for each student to use as s/he sees fit, as part of the effort to define what constitutes a meaningful life.

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INFORMATION LITERACY PROGRAM FOR ACADEMIC LIBRARIES

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ABSTRACT

The paper discusses the concept of information literacy and its implementation in academic library. It discusses the collaboration of faculty member, librarians and computer technology for effective information literacy. The paper describes the theoretical framework relating to technological change and innovations and covers how these theories can be applied in understanding the integration of technology into teaching and learning finally investigators would like to suggest module for information literacy in academic library.

1 INFORMATION LITERACY PROGRAMME FOR ACADEMIC LIBRARY

In the era of information technology, information storage and retrieval has become unbelievable simple, information can be accessed remotely. Globalization of technology and increase in quantity of information from all sources of Information like various types of documents, media and Internet have raised question about Information authenticity, credibility and reliability. The uncertain quality and expanding quantity of information poses large challenges to information users and information science professionals. In this situation only dissemination of information is not only sufficient, the user of information centre should be taught to make the best options provided to them to enhance their knowledge as well as associate knowledge skills to perform a particular task. Information science professional should teach the user to go beyond the physical boundaries of library to seek knowledge and quickly learn to use other learning resources like internet facilities etc learning to learn through these supportive

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learning resources requires higher level of skills and competencies in contemporary environment of rapid technological change and that is why there is a need for an information scientist to be dexterous in use of information for this one should not only have reading skills, technology skills but should have information awareness of the way in which information system works the logical thinking acts as the dynamic link between a particular information need and the that is why information professionals responsibility increases, this is the reason why information literacy has got its importance in today's global environment and has became an indispensable device to handle information.

2 DESIGNING EFFECTIVE INFORMATION LITERACY MODULE FOR ACADEMIC LIBRARY

The mission of the college is to develop the over all personality and thinking of the student to help them to become more responsible citizen for the development of the whole nation and respectively for the development of mankind. Library provides supplementary services to the college to with which it is attached the main purpose of the library is to provide necessary support to the parent organization to achieve its goal. The mission of the library is to have efficient utility of the resources for this library instruction program has been designed to empower students to become information literate and achieve the goal of life long learning.

The main objective of library Instruction program is to educate the user community to use, locate evaluate the needed information and use it effectively and efficiently

The information literacy program is and intellectual frame work for understanding, locating evaluating and using information, which is essential in the contemporary environment of rapid technological change and proliferation of information resources. Information Literacy requires reading skill as well as information technology skill as basic foundation. The success of it depends upon collaboration of librarian, head of department, faculty members and Administrators. Access and instructional practices and use result to improve skills of faculty members. Information Literacy course should be incorporated in curriculum as it is common to all disciplines to all learning environment and to all Levels of education. By this program reader masters the contents and extends their investigation becomes more self-directed and assumes greater control over their own learning, locating,

evaluating and using information. It enables learners to become more self-directed and assume greater control their own learning.

Following modules are designed after watching various case studies of institute practicing information literacy like Healy Library Information Literacy Tutorial.

Module 1 Searching Information Through Searching Tools Like Catalogue And Indexes

Student should necessary refinement needed has to be made. This module depends upon identification of keywords, concept, formulation of search strategy and use of Boolean Logic

Module 2 Locating Information

Locating books and various documents searching in online catalogue by several ways to locate the book basically by author, subject, title and keywords.

Module 3 Finding Articles.

Periodicals are the important information carrier so students should Identity a Popular journal having high impact factor for searching particular topic. Periodical indexes could be browsed. Efficient retrieval of it depends upon the article indexed and contents highlighted.

Module 4 Finding Websites

Latest information is available on Internet so student should be taught to successfully use Internet resources and evaluate Internet resources

Module 5 Obtaining material

Many times the required information is not in library so it has to be acquired through interlibrary loan from other library and person. Students should know about the Inter Library Loan Facility and Inter Institutional Membership facility

Module 6 Citation and Plagiarism

Students when writing research papers should cite the original authors and should be made aware to identify the components for

a bibliographic citation and recognize citation styles which indeed would avoid Plagiarism.

Module 7 Evaluation of Sources

By applying evaluation criteria one can evaluate Information that can find in print source as well as on the Web.

Module 8 Virtual Library tour

Entire layout of the library could be made available for the students online so that they could navigate through library and get necessary information needed for effective use of library. By using these modules librarian can provide valuable information and promote information literacy principal to the academic community.

3 CONCLUSION

As Breivik (1998) pointed out In this next century an educated graduate will no longer be defined as one who has absorbed a certain body of factual information, but as one who knows how to find, evaluate and apply needed information Literacy is growing trend and responsibility of academic library.

The successful development and implication of a program depends on many factors including infrastructure (both personnel and technological) and cooperation of teaching faculty and administrators. We can say information literacy is an indispensable device to learners of 21st century learners.

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INFORMATION LITERACY

Kshipra Sardesai*

ABSTRACT

Information literacy is a survival skill in the Information age irrespective of status and sex in the society. Instead of confusing in the storm of information that waves the lives, information literate mainly information providers and library professionals know how to find, evaluate, and use information effectively to solve a particular problem. The paper also illustrates the information literacy among the society keeping libraries as main media and library associations and professionals as information motivators.

1 INTRODUCTION

Information Literacy is mainly associates with read, writes, speak and compute at a certain level. Functionally, Literacy involves skills needed to cope at an adult level in every day's situations such as reading a newspaper or completing any form. People or it is that corner of society who lack these abilities often are members of population suffering from poverty, crime and unemployment. National awareness of problems associated with limited literacy skills has led to legislation, beginning at the Federal level, to fund new literacy programs and expand important component of this massive educational effort.

2 ROLE OF LIBRARY PROFESSIONALS AND ASSOCIATIONS

The need for programs to increase literacy has been acknowledge through support from the government, from many organizations in the education and library and information fields, and from industry and business. In Unites States in the year 1990, a National Literacy Act was passed by Congress Senate and a education Bill in connection with the same. Library literacy programs have also been funded by each state and local resources or by individual

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donations or coordinated through literacy organizations according to respective nation's literacy policy. In addition many Non Government Organizations (NGO) and other social organizations are assisting Libraries in implementing literacy programs.

In Maharashatra, one of the organizations named "Bandhilki" works for women literacy programs in the villages of Kalyan and Karjat District. The library of this organization also holds various activities for younger ones and youth from the affiliated villages.

Libraries are playing a supporting role in education and lifelong learning centers with a mission of Literacy Dispersion among the society. In this role Library professionals must actively commit time and resources to coordinating literacy activities at all levels.

Public, special, academic and institutional libraries have a responsibility to promote literacy among all members of their community, users, and non-users.

The American Library Association's official position on the role of libraries in the area of literacy encourages library involvement and places no limitations on how libraries should be involved in literacy education.

3 ELEMENT INFORMATION LITERACY

Over the years, many Monasteries, Temples, Churches, and private information collectors have supported d the society, empire by distributing the information on restricted people, communities of the societies by way of calling them at the resource centre. They offered these people referral services mainly orally and then further on leaflets/barks/skins/wood etc. Further, these referral places are turned to libraries, national archives, information and research centers and the media of information has came with many forms as print, audio-video, electronic, visual and mass media. The interfaces in used are unaccountable. The fast up gradation in Information Technology has changed the image of Library Professionals into Information /Knowledge Manager and the role are transformed from custodians to information providers.

The changed role has added various other responsibilities on them and one of the important is remove illiteracy from the society.

4 STANDARDS AND PERFORMANCE INDICATORS

UNESCO, ALA, ISALIC, WB etc like standard organizations recognized the importance of libraries and their functional activities, which are being used as tools for promoting social programs related to education. UNESCO in 1994 has set up a manifesto for public library; in which information literacy is one of the important issue to be carried out by the Librarians. These guidelines are supporting the various services to be offered by Library and Library Associations in the respective countries. On the basis of these guidelines the network of libraries in education, public services, for disabled people's interest in learning, extension services etc are setup with workshops and conferences also some training programs for the information providers as well.

In addition, some libraries offer programs for groups at risk for literacy-related problems. Adolescents have been targeted because illiteracy has been associated with other social problems including crime, pregnancy, poverty, unemployment, ignorance, and drug and alcohol habits, also school failures. School vacations, summer holidays and even night schools are planned for literacy programs to encourage young people to become employable, contributing members of the community and generally to raise their self-esteem. Strategies have included homework, help sessions, peer tutoring, and group reading, problems discussion about education.

In villages families have to be targeted because illiteracy seems to be passed from one generation to the next children. Parents, who may have been inspired to seek literacy training by concern for their children, are taught interactive language activities for use with infants and young children. The Librarians are the perfect personalities to the needful in such training programs.

5 INFORMATION LITERACY IN 21st CENTURY

Literacy in 21st Century will increasingly be used within multimedia, interconnected (ICT) environment to search for, organize and manage information interpret and analyze data; work with distributed teams, communicate with others; and use information to solve problems and create new knowledge and cultural artifacts. Increasingly this information will be created and stored in a number of media forms. As learner acquires and solidify basic literacy skills, these skills can be used to acquire the more advanced IL skills needed to be productive and successful in

acknowledge economy and information society that is increasingly influenced by technology.

6 CONCLUSION

The paper concludes with a vision on the ways that how technology and information officers/library professionals can support the development of youth and adult literacy, and a non-formal education in a global perspective. There is a broad view of how to use material from huge array of sources and areas to support a growing picture of relationships and interconnection between literacy and technology. It also adds that policy makers should implement and give options for the new skills in use, necessity and also expand the roles for new technologies/ library professionals in literacy development The ICT is now too cheap to ignore. Literacy, technology and library professionals are becoming more and more inter-dependent. New ICT tools are as user-friendly that each nation should see, to take at the most advantage of these three entities. The efforts of IT, ICT and Library professionals may enhance the basic education, literacy and smile on the face of every citizen of any nation; only the governments, standard organizations like WB, UN, ALA etc may support the services of Library professionals and that of the status of the country.

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INFORMATION LITERACY

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ABSTRACT

Information literacy can be defined as "the abilities to recognize when information is needed and to locate, evaluate, effectively use, and communicate information in its various formats or in another words "the ability to locate, evaluate, and use information to become independent life-long learners. Information literacy is nothing but when one needs information, he finds the information, he need to evaluate it and use it effectively to meet his/her needs reflect on it and where appropriate assimilate it into his/her existing knowledge. Apply it to solve similar problems in new situations, use it to construct new information.

The present paper discusses the role of libraries in the awareness of information literacy. The concept of Information Literacy is not new for the professionals of Library and information science. In the age of information explosion it is an essential function of Librarian and his team. They should know the process of information literacy. How information literacy helps in a socio-economical development of nation. In these context libraries has major responsibility. Overall aspects related to the information Literacy is discussed in the paper Importance, Dimensions, role approaches of librarian are taken into consideration to through the light on the theme of the paper. Authors have also viewed this concept on globally.

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INFORMATION LITERACY

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ABSTRACT

This paper discusses meaning of information, scope of information and how to use information in libraries and social systems and also discusses the literacy meaning, scope and how to manage the programme of literacy in world, national and state level to various agencies and authorities. Information literacy is an essential element of undergraduate education. Information to guide decision, solve problems and steer through uncertain complex future.

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INFORMATION LITERACY: NEED TO PROMOTE THE USE OF DIGITAL INFORMATION SERVICES IN MODERN ERA

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ABSTRACT

Information Literacy is the key competency for the Information age. Every person has a fundamental right to information literacy and information access. The importance of information is being increased in the present times and information has become one of the commodities that can be borrowed, purchased and sold. Information is more widely recognized as a natural resource in the electronic era. It is a fundamental input is the education that is considered as an essential component for the life long learning information literacy plays significant role in the effective use of IT based services in libraries and Information centres. The paper discusses different definitions, need, importance of information literacy to promote the use of effective information services and the role of librarian in the digital environment. It concludes the status of information literacy programmes in various states of India.

1 INTRODUCTION

With the advances in Information and Communication technologies are now changing to what may be called virtual or digital libraries. It has affected significantly the nature of delivery of library resources and services. The traditional concepts of organization, user orientation, bibliographic description and dissemination of information are to be fine tuned to the new environment by the Library and Information Professionals. So the LIS professionals working in the environment have to face challenges for providing the right information to the right user at the right time. Hence it becomes important for the patrons also to

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develop skills in Information Literacy so that they can identify, evaluate and use the relevant information effectively.

In Information society libraries are key agents in enabling people of all ages to prosper in the information society by helping them to acquire new skills for employment, use information creatively and improve the quality of their lives. Library and information profession since decades has been in partnering in the spread of literacy and participating in the related programmes. As a matter of fact, it is well known that in India, libraries were partners in adult education programmes in the 1920's and 1930's to supply appropriate reading materials to the neo-literates with the aim to perpetuate their literacy achievements. The libraries have been conducting library and information use programmes under the broader umbrella of user education consisting of, user orientation, freshmen initiation and bibliographic instruction programmes. These programmes have followed the contemporary developments in the field and to meet the expectations of the users.

2 INFORMATION LITERACY

According to Paul Zurkowski first defined information literacy in 1970s as "People trained in the application of Information resources to their work can be called information literates. They have learned techniques and skills for using the wide range of information tools as well as primary sources in molding information solution to their problems".

Lexon and Walker also define "Information Literacy by characterizing information literate person: one who has the analytical and critical skills to formulate research questions and evaluate results and the skills to search for and access a variety of information types in order to meet his or her information needs".

Information literacy is the foundation of learning in the modern technological changes. It is required for lifelong learning and is central to achieving both personal empowerment and economic development. The concept of information literacy and information technology literacy are usually distinguished to demonstrate the difference between the intellectual capabilities involved in using information and the capabilities required for using technologies that deliver or contain "Information". Information literacy is not synonymous with information technology literacy. Information Technology Literacy does not give a person the skills to become

information literate. IT literacy is a sub-set of information literacy. To become IT literate only allows the skills necessary to effectively manage the hardware and software, which will allow access to that information which is in electronic or digitized form.

3 NEED FOR INFORMATION LITERACY

We are living in the information age. Information is the basic requirement for every human activity and it is important as food, air and water. Information in itself has no value, but its value lies in its communication and use.

The need of information literacy may be essential due to the following reasons.

(i) rapid increase in the stream of information due to information revolution;
(ii) advent of information and communication technologies;
(iii) vast variety of information sources;
(iv) changing shape of libraries ;
(v) wide dispersal of information ;
(vi) increase in number of users , and
(vii) research on complex and interdisciplinary topics.

4 ROLE OF LIS PROFESSIONALS IN INFORMATION LITERACY PROGRAMME

The basic aim of the library is 'serve the reader with information' means to provide instantaneous information service to user community. Library professionals with their expertise, knowledge and techniques of where to look up and how to find out information for given query can help the users in their search for information by extending personal help and assistance. LIS professionals have to play a significant role to promote information literacy in society. There exists a gap between Librarians and the users' information needs. To bridge this gap they need to educate and re-educate themselves to acquire new skills and competencies for a new role and they need to cultivate the concept of life long learning of information literacy skills. 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. Many Librarians have to identify the best-suited mixture of computer knowledge and skills and subject knowledge to produce effective program for educational pursuits. They must encourage students

to question their findings every step of the way in the research process, especially as new formats are made available. Librarian must build new paradigms and frames of analysis, including new language. They must accept that they are educators and knowledge managers first and foremost.

Library staffs require students to be highly information literate and technically proficient from the day they start their course. They are expected to access subject home pages on the internet, take in discussion threads (on-line tutorials) and complete other on-line tasks. To promote information literacy LIS professionals should come forward to organize the courses, which enable students to develop technical and communication skills necessary to ensure that they are of immediate benefit to the students. The courses are designed to enhance a number of generic skills which are important for the development of the individual such as self-awareness, presentation and communication skills and skills for the maintenance of learning and knowledge. Before introducing any course firstly they should identify the needs, interests and abilities of the students. There are two components of the course for information literacy; one is orientation, which is primarily concerned with the way of introducing the users to the general techniques of library usage and services available and to the organization layout and facilities of a particular library. During orientation library staff delivers a lecture, which introduces the program, demonstrates the use of the catalogue and shows students how to access the self-paced on-line tutorial. Students work through the library catalogue unit of the tutorial and also complete an exercise. They are able to create a network account and configure and e-mail account during one of their orientation week sessions. Other is instruction that is concerned with learning to make use of the information resources available with specific subject disciplines. It consists of library staff demonstrating CD-Rom network and web-based databases, and searching the internet using search engines and subject gateways. A lecture by library staff called researching a topic is another great motivation for students to appraise critically the material they find, especially information found on the Internet.

5 METHODS OF INFORMATION LITERACY PROGRAMME

Today information has become a major economic commodity and citizens need to be educated for productive information use from pre-school through post-secondary education Libraries and

Librarians play an important role in the education of people for effective and efficient information use by teaching them information skills at all levels of education to enable to be informed citizens of the country. Information literacy is considered as a powerful weapon for lifelong learning. It is common to all disciplines, to all learning environments and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed and assure greater control over their own learning. The central mission of higher education is to develop lifelong skills and provide the continued growth in the later career of the students. In these days of information explosion information literacy is increasingly important. To prepare the informed citizens there is an urgent need to promote information literacy by the way of:

(i) Lectures: to educate large number of users
(ii) Seminars and Demonstrations: to develop interaction between students and library staff
(iii) Printed guides and book news letters, promotional leaflets describing systems and data bases, data base user manual: It is the cheapest and the most effective method for searching and it is available for use and when required by the users.
(iv) Audio-visual material like videotapes, films and audiocassettes: A.V materials are used effectively for demonstration the on-line searching.
(v) Individual Instructions
(vi) On-line course/tutorials

The above two methods one is Orientation to the users to learn the existence of computer based information retrieval and the services available i.e., where and how search can be carried out. Through orientation students show positive attitude towards Internet use and the students are able to carryout on-line searches another method is Instruction is concerned with users to learn in detail how to carryout on-line searches related to a particular subject. It enables the users to be aware of online databases. No single method of promoting information literacy is effective. Choice of training methods depends not only on the learning effects but also on resources, equipment, cost of use etc., so the method should be chosen after assessing the resources of the organization and evaluation of the methods.

6 INFORMATION LITERACY IN INDIA

The success of the developed countries reflected through the documentary sources, conferences and seminar proceedings, case studies, websites, standard policy guidelines and reports are the inspiring indications to India to catch up with the main stream.

In India many state governments, UGC and NIRD have taken bold steps to facilitate digital information services to the respective user community.

In India many state governments also stepped into this wind and launched information literacy programmes in the late 1990's for e-readiness. Andhra Pradesh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, New-Delhi, Rajasthan and Tamil Nadu are the leading examples for using information technology for e-access, e-learning, e-society, e-economy and e-policy etc., Andhra Pradesh government established A.P State wide Area Network which is a network for data, voice and video communication. To this various utility services like payment of different bills. Property tax, purchase of certificates and licenses, building permits, registration and transport facilities, etc., were added under e-seva centers.

In Madhya Pradesh government introduced extensive computerization in dealing with pay rolls, budget, land records, public programmes and relief operations. A good example of local level initiative in e-Governance is a Rural Intranet Project known as GYANDOOT which was adopted by the District Panchayat of Dhar District of Madhya Pradesh for e-Commerce involving the rural people.

Karnataka state government also began computerization of most departments especially the education department. Similarly, the Government of Tamil Nadu also computerized its major departments with an objective to restore public confidence and to create an effective relationship between the government and civilians. To this effect it computerized land records, registration, and transportation and education systems. It has also promoted the use of Tamil on Internet.

Kerala government had a comprehensive programme for decentralization of the e-Governance at district level. Many District Cooperative Banks and Credit Societies were networked. IT is

used for tax collection, accounting, and information regarding welfare programmes, government orders and directions.

Similarly, Rajasthan, Gujarat and Uttar Pradesh governments pursued measures to strengthen e-Governance, provision of statewide network, development of IT schemes. In Maharashtra a notable example is Warana Wired Village Project executed by the National Informatics Centre covering 70 villages. It allows Internet access to cooperative societies and aims to deliver information relating to agriculture, health and education by creating networked information booths in these villages.

9 CONCLUSION

The information society is witnessing vast and ever increasing qualities of information embodied in a variety of formats and unprecedented advancement of technology. To lead a successful life it is inevitable for the students to be information competent. Therefore, it is one of the urgent tasks of the educational institutions to help the students to develop this competency and become information wise citizens of information and technology society.

In India most of the students earn their University degree without receiving any formal information literacy training. When they finish their University education and enter the modern world of work, where information and knowledge play a great role, they fail to sell themselves in the global job market. The lack of information literacy in a serious problem. India needs today a strong movement of information literacy. The network of organizations and professional associations engaged on the information literacy promotion and implementation are to be established. There should be well developed Library and Information systems and networks. Schools and Universities should understand the importance of information literacy and lifelong learning skills and educate their students how to find evaluate and effective use information.

A few strategies, which can be considered for the inductive of information literacy programmes at various levels, are given below:

(i) Government should make efforts in preparing policy guidelines and standards at national level and should come out with the NILP and establish the National Task Force to monitor the information literacy programmes.

(ii) The concerned controlling and funding bodies to design and develop the information literacy curriculum at different levels of education initiate higher educational institutions.

(iii) To conduct national and regional level seminars, workshops, conferences be organized to redefine and restating the role of information literacy in the growing digital environment.

(iv) Launching a dedicated information literacy websites to facilitate the sharing of resources and where the information regarding information literacy programmes can be made available.

(v) UGC should take initiative in directing the higher educational institutions to integrate the information literacy across the curriculum by designing a separate paper at the UG/PG level students.

(vi) Universities should undertake a systematic assessment of student information competence to develop benchmarks, which will help in preparing model list of information competence skills for students entering the University and graduating from the University.

(vii) All national, regional and local library associations' academies and societies should formulate a Joint Action Committee to evaluate the information literacy movement in the country.

Every library of information centre in our country should be attached with Internet and should create a home page. Technologies such as e-mail and web provide tremendous opportunities for library and information scientists to delivery information to the desktop of our users. The successful implementation of the network services will depend to a large extent on the willingness of the participants to co-operate with each other with a sense of 'give and take'.

To conclude, apart from the skills of reading and writing, the students of 21st century need more complex and analytical skills. The technological tools of information age- computer networks, telecommunication system, digital information resources and databases have put an unprecedented volume of information at in fingertips. In Indian universities, in spite of the fairy good exposure of younger generation to modern technology, there are still some inherent difficulties like lack of knowledge of how information is organized, unawareness of search strategies, retrieval techniques

etc., Further the students are hardly able to make distinction between internet sources and electronic information sources. Therefore, it is necessary to teach the students to acquaint with what is available, when to use it and how to find it. Information literacy is one such potential tool that empowers all learners. Information is the lifeblood of democracy and it is considered as the vital source of power. But the real information power lies in having the right information at the right time for the right purpose, which is the quietness of five laws of Library and Information Science.

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LIBRARIANSHIP TO E-LIBRARIANSHIP: A PARADIGM SHIFT

Meeta Rathod*

ABSTRACT

The present paper describes the concept of e-librarianship. It covers the need for moving towards e-librarianship in this Information Technology era. Further, it highlights its implications with current librarianship. It also makes an attempt to explain integration of librarianship with the latest technology system.

The paper tries to emphasis the role of librarians from Archivist to that of Information Navigator. Librarians continue to acquire, organize, preserve and make available information, along with this they are also increasingly required to function as managers of electronic information. It is just that technology has given a face-lift to the libraries as well as librarians.

1 INTRODUCTION

The Library and Information professionals are facing the challenges in handling conventional and electronic resources as well as in selecting, acquiring, organizing and ultimately disseminating information pin-pointedly and exhaustively to their users.

The Information Technology (IT) has altered the mode of publication in such a way that the traditional sources of information continued to be flooded with the attractive electronic sources of information. As a result, the era of e-publishing now affecting the Library and Information centers, the Library and Information professionals and the Users drastically. These drastically changes and developments in the era of e-Age if managed properly can be used effectively and efficiently to provide the information to the users in time.

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There is an increase in demand from users for traditional type of literatures to be delivered in an electronic format. There are different kinds of e-information resources are now available in the market such as :

i) Electronic Books (e-books)
ii) Electronic Journals (e-journals)
iii) Electronic Zine (e-zine)
iv) Electronic thesis and Dissertation (ETD)
v) Electronic Newspapers

These e-resources have certain advantages over the conventional printed resources such as, the ability to create a hyper-link and the ability to make the book a multimedia experience may also offer superior users value. E-resources are highly interactive. It allows unlimited dissemination and use of sets of information objects of all types. It also has conveyance degree of user friendliness in its interface.

This indicates that with the advent of Information Technology the role of Library and Library Professional is undergoing a rapid change. Fig. 1 presents the avenue of e-librarianship.

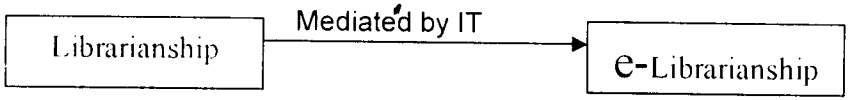


Fig.1 The Avenue of e-librarianship

One of the most important issues challenging the human dimensions today in library is the application of Information Technology and how it affects the complex housekeeping and other functions within library. The use of Local Area Networks (LANs) & Wide Area Networks (WANs) may have considerable impact on library functions.

The key difference between librarianship and e-librarianship is that e-librarianship takes place in a context where Information Technology mediates work. In such a context, not only librarian's communication with users take place via Information Technology, but the collection and dissemination of information is also through Information Technology.

2 THE IMPACT OF E-AGE

Time has certainly arrived when we can call the present age as the electronic age or as popular, the e-Age. This e-age has added an 'e' to virtually everything we see in the present time. But the difference is in the meaning that gets added, which depends on the context. Here, we are going to talk about the impact of this 'e' factor on the simple phenomenon of librarianship. How does this 'e' actually make the difference when added to librarianship making it e-librarianship?

Let us first take a look at how the libraries in olden days differ from today's e-Age. The table-1 gives a brief comparison between the two:

Variables	Characteristics of traditional librarian	Characteristics of modern librarian
Age	Conventional Age	e-Age
Nomenclature	A Library	An Information Center
Information Service	Focused	Directed
Motive	Lifetime employment	Lifetime Learning
Job Profile	Traditional Culture	Building e-Environment
Promotion	Seniority	Performance
Information Access time	9 to 5	24 x 7
Information Access	Library Buildings	Anywhere, Anytime
Attitude	Knowledge is Power	Knowledge Sharing
Professional Relationship	Competitors	Networked Alliances
Designation	Librarian	Knowledge Manager
Service Speed	Time Consuming Service	Prompt Service
Flexibility	Less	More
Style	Competitive	Collaborative
Working Approach	Unilateral	Multilateral
Locate Information	Manually	Automatically

Table-1 Characteristics of traditional and modern librarian

This comparison shows a vast gap between the libraries behavior with time. This drastic change has given new meanings to old concepts, one of them being the librarianship, which we are going to analyse with an 'e' perspective. Fig.2 presents the e-librarianship.

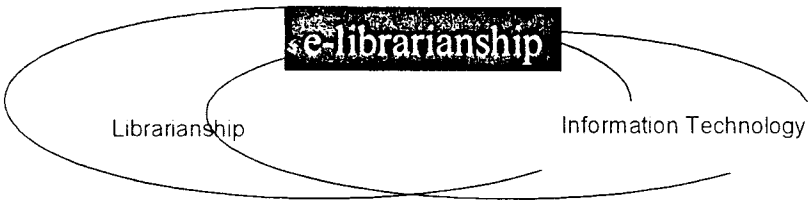


Fig.2 e-Librarianship

Librarianship in the electronic age is surely different. As the impressive & seemingly constant parade of developments in computer & communication technology continues to change our world, one tremendously important context for librarianship is impact of e-factor on librarianship.

Librarianship can be viewed as a dynamic robust system embedded within larger Information System. The global economy is undergoing a major transition with the advancements in Information Technology. The rapid advances in Information & Communication Technology which allow people to more easily generate, organize, & access information have real implications for the capacities that librarians need. New technology has the potential to affect the Information Sharing.

Therefore, an IT enabled economy is creating a new context for librarianship& it becomes important to consider how IT interacts with librarianship to influence both the structure and effects of librarianship & how librarianship, in turn, might influence the adoption of advanced information technology & effects on library.

Today many librarians stay in context with each other by interacting through telephone, overnight express mail, fax machine and groupware tools such as e-mail, bulletin boards, chat and video-conferencing.

It is different because it alters the patterns of how information is acquired, stored, interpreted & disseminated. Access to information and media has changed. It is now easier to reach and touch others.

The key difference between librarianship and e-librarianship is that e-librarianship takes place in a context where work is mediated by IT. In such a context, the collection & dissemination of information is done through IT.

3 NEED FOR E-LIBRARIANSHIP

The need for e-librarianship is being felt because as at the tum of the century characterized by radical changes, reengineering is applying to all fields. Reengineering the library services means shifting to a broader perspective rather than just Information Retrieval and Document Delivery. Library practice has been updating with the societal advances from book warehouse to information center, the principle that library is an ever-growing organism is embodied.

The e-librarian recognizes that librarianship is outdates today unless it helps users in dealing with great challenges offered by technological innovations. Fig. 3 depicts the implications of e-resources on librarianship.

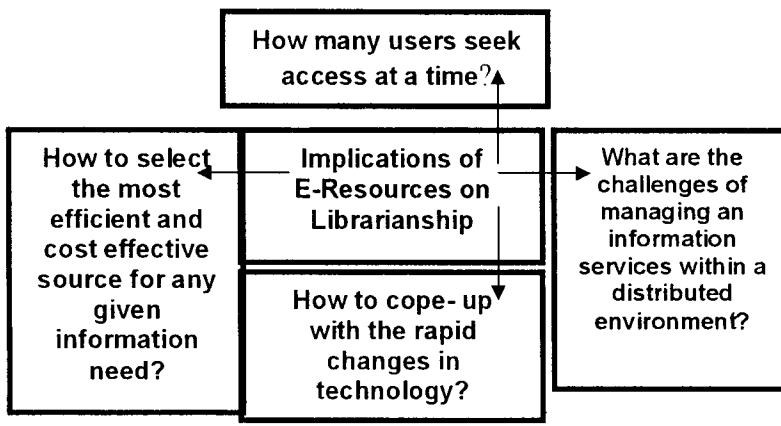


Fig.3 Implication of e-resources on Librarianship

It is very much essential that library and Information professionals have to be trained up not only in the use of new technical innovations but also how to apply these developments to their own practical situation. Lateral thinking and practical application is often a bigger challenge than is appreciated.

The challenge, which e-resources raise for the Library and Information professionals, is how to achieve the maximum benefit from information for the organization and for the users of information. This means being able to identify precisely what is needed and to provide it when required, restructuring and refining when necessary. Fig. 4 presents the integration of librarianship with technology systems.

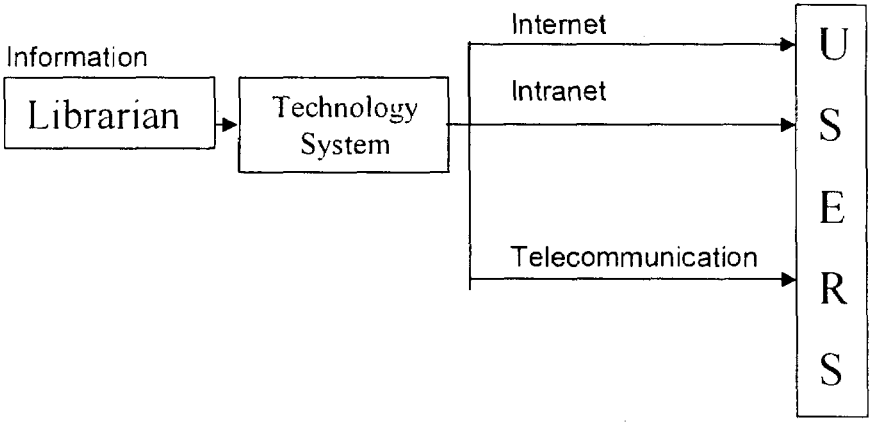


Fig.4 Integration of Librarianship with Technology System

This requires 360-degree relation with the users, librarian and other library staff. Information itself is not the critical component. The critical component is the unified support that the librarian offers to its users. This is the emergent property of information in the emerging knowledge era.

Every encounter with the user becomes critical and, as a librarian, one must be able to take a comprehensive view of each of these encounters.

4 DEMANDS OF E-LIBRARIANSHIP

Librarians have excellent skills in organizing and codifying information sources and making these accessible to others. They are involved in a continuing search for excellence in organizing and codifying information resources.

Librarians are – Knowledge Coordinator, Knowledge Creator and Knowledge Sharing. Fig. 5 presents the demands of e-librarianship.

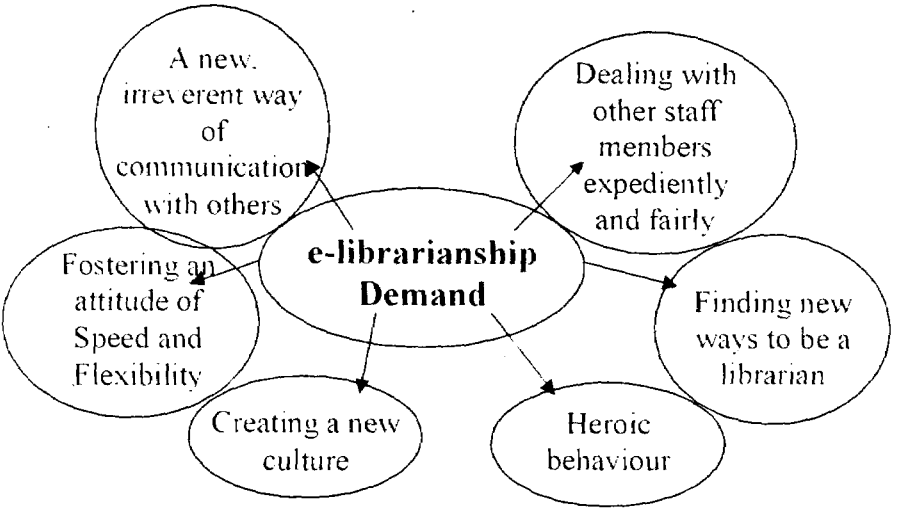


Fig.5 Demands of e-librarianship

Along with the above-mentioned characteristics there are some more efforts required for e-librarianship.

i) e-librarianship demands along with the conventional culture they have to foster an attitude of speed and flexibility in order to facilitate the internal transformation to an environment for the modern era.

ii) e-librarianship demands finding new ways to be a librarian; new ways to communicate the vision and create a culture; and new ways to think about what a library is and what it should look like.

iii) e-librarianship also demands heroic behavior. It entails breaking many of the rules we have played for generations. It means sacrificing the comfort of the status quo in the quest for a new direction that will survive the e-revolution.

We live in a world of new technology. We are bombarded by it everyday. The availability of new tools has affected every librarian and librarians.

i) Librarian must have a vision for his/her library. One need to create an environment where ideas flourish and can be challenged. One needs to deal with the other staff members expediently and fairly. One needs to communicate and inspire his/her workforce.

ii) e-librarianship requires creating a workplace where new behavior is encouraged. It demands a new, irreverent way of communicating with users. It forces you to take the rhetoric of change and put it on the floor.

It requires to some extent a transformational librarianship because of the highly participative nature of the e-world between e-library & e-users.

5 ROLE OF LIBRARY AND INFORMATION SCIENCE PROFESSIONALS

Library and Information Science professionals have to play a significant role in handling conventional and electronic resources simultaneously. They should accept the change and adapt to new situation for the benefit of the profession as well as the users.

The main role of Library and Information Centers are the selection, the storage, the retrieval, and ultimately the dissemination of information to the users' community and would remain the same what they have always been.

It is now necessary that Library and Information Science professionals ascertain the impact of e-resources and they will have to monitor and acquire skills to cope intelligently and objectively for effective and efficient functioning of Library and Information Centers. They are required to constantly update their own knowledge and skill base so as to work in today's rapidly changing information and knowledge systems.

At any moment the librarian can be a Gatherer of Data, a Distributor of Information, and a Source of Knowledge.

Librarians need to lay the foundation to serve the users of tomorrow. They need to plug into the Information Superhighway and exploit the relevant technology to make knowledge available to users in a fast and reliable manner. Librarians need to move towards a borderless information environment and remove all boundaries and barriers to knowledge transfer and share.

They are required to constantly update their own knowledge and skill base so as to work in today's rapidly changing information and knowledge systems.

The e-world has allowed everyone to have access to the information sources. It is therefore necessary to let the users to lead and to think of the librarian as collaborator. Thus, the e-world is a collaborative system. The librarianship style needed is one of total collaboration, one of being an enabler of the human and technology sub-system.

6 CONCLUSION

To co-evolve the librarianship with the new technology system; it requires to some extent the transformational librarianship. This librarianship is gained from multiple sources that can be acquired experientially, by programmed learning, and critically by the other ways of knowing such as instincts, intuitions, relationships etc.

In the near future, e-librarianship will be the routine rather than the exception.

There are many issues that need to be explored as e-librarianship is in its infancy stage. Some of them are :

i) What are the implications for librarians and the other library staff where Information Technology now mediates interactions?
ii) How should the librarians be trained or skilled to work in this new environment?
iii) How does the technology affect trust, motivation, commitment, and performance levels?
iv) What will libraries look like when we move through this period and fully implement e-librarianship?

After exploring the above subject it has come to the notice that there are many areas for e-librarianship require to be studied and researched in detail for the proper implementation.

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MOTIVATION OF LIBRARY PROFESSIONALS IN KNOWLEDGE MANAGEMENT: THE ROLE OF THE LIBRARIAN IN THE CHANGING SCENARIO

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ABSTRACT

Library is the source of information for its members. The concept of the library has changed considerably with new technologies, new materials, and new services. Today the librarians are the key managers in the Knowledge management cycle. Information Technology enabled services have crossed all barriers in information dissemination process. Now the librarians need to reorient/ redesign their services to meet the challenges in the 21st century. Since there is a sea change in the techniques, attitudes and sources, the library professionals at various stages need to be motivated in the new environment so that their role will be more effective in Knowledge management. The paper presents certain motivation theories and measures for the library professionals.

1 INTRODUCTION

Knowledge is the sum total of known and unknown entities and is the result of human endeavors of experiences accumulated through generations. In fact, knowledge is dynamic in character, multi-dimensional in size and ever- growing in its range and scope. Knowledge belongs to a person who discovers it and also to the society. Man is doing research for inventing new things and discovering the means to have his daily needs fulfilled. According to Dr. Ranganathan "knowledge is the sum total of information conserved by civilization".

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The role of librarians is that of knowledge manager, who acquired and collected stored, catalogued and retrieved the printed materials as and when required by public /users according to their taste. But this traditional role has seen a sea change in the last two decade with the growth and advent of communication technologies. The librarians who were more of knowledge managers have moved from that role to become more of service providers. There was a tremendous change in library. with the advent of computer services in libraries. Most of the libraries like public, special and academic all adopted the new technologies in its various facets to provide the needed services.

2 MOTIVATION

"Motivation refers to the readiness of an organism to pursue some designated goals and implies the determination of the nature and locus of force including degree of readiness". Encyclopedia of Management.

2.1 Importance of Motivation

A librarian gets results through other people. His effectiveness depends to a large extend, on the willingness of his employees to do the assigned tasks with interest enthusiasm. Motivation is the work a librarian performs to inspire and encourage people to take required action. According to Scott, motivation is a process of stimulating people to action to accomplish desired goal. Motivation has three distinct features

i) It results from a felt need. Motivation triggers behaviour impelling a person to action

ii) It is goal-directed. Motivation is a driving state that channels behavior into a specific course that is fulfillment of felt need.

iii) It sustains behavior in progress. It persists until the satisfaction of reduction of a need state occurs.

Further, motivation is a personal and internal feeling. The feelings arise from needs and wants. Human needs are unlimited. Fulfillment of one set of needs leads to another. Therefore motivation is a continuous process. Since needs are inter related, a person cannot be partly motivated as he is a self contend and inseparable unit.

3 OBJECTIVES OF THE PAPER

The objectives are

i) To study the need for motivation in libraries;

ii) To study the motivational theories applicable for the libraries;

iii) To identify the library professionals for the motivation;

iv) To describe the need for motivation of library professionals in knowledge management; and

v) To suggest measures for the motivation of the professionals.

4 THEORIES OF MOTIVATION

4.1 Maslow's "Hierarchy of needs" theory

Maslow's "needs hierarchy theory" is probably the most widely used theory of motivation in organization. This model of hierarchical needs explains human behavior in a more dynamic and realistic manner. Maslow postulates five basic needs arranged in successive levels viz; Physiological needs for food, Security and safety needs. Love and Social needs Esteem needs Self-actualization needs.

4.2 Herzberg's Two-Factor Theory- Fredrick Herzberg and his associates developed the two-factor theory. This theory is depend on this idea that people who are generally satisfied with their job will be more dedicated to their work and perform it well as compared to those people who are dissatisfied with the their jobs.

4.3 Expectancy theory by Porter and Lawler

They tried to explore the complex relationship between motivation. satisfaction and performance and point out that effort does not directly lead to performance. According to Porter and Lawler performance in organization, appears to be three important factors.

i) An employee must want to perform; the desire of employee to do the assigned jobs. One must be motivated.

ii) Motivation alone will not ensure task performance. A person must have the necessary abilities and skills. One must have necessary abilities or traits.

iii) Finally, a person must usually have an accurate knowledge of requirements of the job if he is expected to devote his energies fully on the assigned tasks. One must have fairly clear role perceptions.

5 MOTIVATION TECHNIQUES

The motivation is an analytical process. It is based on appreciation of the process of motivation and the models described above, and an understanding of the needs of the organization and the people in it, in relation to the demands made by the environment on both the library and its members. The analysis should be cover following areas-

i) **The environment in which your library operates**. - The threats it is facing the opportunities available to it the impact of external influences and internal developments on the needs of the library and its employees.

ii) **The organizational needs** – Your corporate and organization development plan and your human resource plans should tell you where you are going, what you want people to do and what sort of people you want to do it.

iii) **Individuals needs** - This is the key analytical area but it is also the most difficult one. One of the problems is that so many needs may operate at so many different levels to which are attached a wide variety of goals. To some people, security is all they want, some only prestige and esteem, while others aims is for self-fulfillment. Each of these needs is satisfied in different ways inside and outside works, and there are a number of alternative actions, which will achieve desired goals.

6 MOTIVATION STRATEGIES

There are three basic approaches, which have been advocated by motivation experts. Each has its merits they are following

i) **Carrot and stick-** People work for rewards. They will work hard if authority pay them well and work harder if authority pays them more.

ii) **Motivate through the work itself** –Motivate through the work itself give people fulfilling work and their level of job satisfaction, and the performance will be high

iii) **One-minute manager system**- Set goals with subordinates and give them positive feedback when they do correct and negative feedback when they are wrong.

iv) Authority have to develop his motivation strategy on the basis of own analysis of the situations and incorporate in it the mix of techniques that are appropriate to that situation.

7 MOTIVATION METHODS

i) Use money as a reward and an incentive;
ii) Spell out requirement;
iii) Develop commitment;
iv) Match people to jobs;
v) Link rewards to performance;
vi) Exercise leadership;
vii) Train and develop people;
viii) Recognize individual differences; and
ix) Check the system for equity

8 MOTIVATION AND ROLE OF LIBRARIAN IN THE CHANGING SCENARIO

The development of IT is the gift of twenty first century. The role of librarian becomes very important in the changing scenario. If he wants to adopt new technologies, it is necessary for him to motivate the staff and improve the professional skills. Different methods applicable for libraries have already discussed above. Librarian can use any one of them. The librarian can help them to update on latest Information technology and current techniques of Knowledge Management. Librarian can adopt SWOT (Strength, Weakness, Opportunities and Threats) technique. The librarian should make the staff understand the reasons for change, there by motivating the staff to accommodate changes in information provision, information storage and information access and to do value additions to. The library staff must be educated to assume greater responsibilities and to grow into more demanding roles. End users of libraries generally view working staff in library as a "librarian".

Libraries, like most other organizations, utilize several categories of employees. The categories of staff vary from library to library; however, there are three basic groups:

i) **Professionals** - staff with Master's degree in library & information science and or/a subject graduate degree

(librarians / professionals / subject specialists). The professional staff, particularly at higher levels, therefore they have higher academic professional qualification and several years of experience on the basis of which library needs are identified, problems analyzed, goals set, activities planned and executed. They play leadership roles, directing both the total organization and the various departments and divisions. They constitute the top and middle level officers of the library, holding positions like Director, Chief Librarian, Librarian, Deputy Librarian, Assistant Librarian and professional Assistants.

ii) **Semi Professionals** - are a number of essential jobs in a library, many of which are routine and repetitive in nature. These type of jobs are performed by a category of staff who have generally with a degree ranging from high school to under postgraduate qualifications and library training at a level which exposes them to all routine work in libraries. They also pick up skills on job because of their basic training in library work and carry out important routines. Such staff is referred to as 'semi professionals'. Persons who are involved in these types of work are designated as technical assistants, library assistant, catalogers, shelf assistants, etc. They give the much-needed support to higher-level work in libraries.

Technical staff: - current trends and future possible developments clearly indicate that in university, research and special libraries, a distinct feature would be the increasing use of computer, communication and media technologies for providing library and information services. Development of Local area network, computer application in libraries, reprographic services, and use of audiovisual material etc. require specialist staff. All these developments would naturally increase acquisition of sophisticated electronic equipment and machinery .The handling of which would require specialists in these field. Hence a large library may have to employee specialist to system design and operations.

iv) Administrative Staff: A library has to perform a number of jobs relating to administrative and financial matters. These include personnel, purchase, stores cleaning, security, accounting, budget preparation, financial control, accounting etc.

Due to different categories of staff there is big gap in thinking of Top management and Lower management. Individuals have different levels of abilities. If the two are incongruent, the individual would be frustrated and his job would not be done well. Conflict or cooperation both emergence processes occur within groups and between them. Lewin, Sherif, Klineberg, and others have demonstrated that conflict and its accompanying aggressiveness are features of interaction between groups and not the idiosyncratic or sick personality of leaders.

9 CONCLUSION

Knowledge Management environment needs excellent information management. Information Technology is opening up new horizons of information provision, creating a better environment, improved and value added services, easy and portable access and retrieval of information, on line search and finally better understanding between the user and librarians on various needs.

Many hold the strong view that the basic concepts and methods of traditional librarianship are equally relevant and applicable in digital librarianship. Using motivation any organization like library can develop their staff work performance. As a means of effective motivation, the Knowledge Managers will do well in keeping their subordinates adequately informed of their plans, day by day activities, and changes in library' policies, rules, procedures, etc

The careful attention is to be given by authorities in improving the environmental and working conditions to the satisfaction of the workers for enlisting their full cooperation in improving library services.

Information profession has the theoretical basis and practical skills to provide this essential element of Knowledge Management. However the impact of information professionals is not being felt because of lack of business understanding and of the ability to demonstrate where their skills have strategic and tactical values. It is to the librarianship and information profession to add value to a knowledge based environment, it needs to develop arranged interpersonal and business skills in their staff and value it self as a core part of Knowledge Management system.

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NATIONAL INFORMATION LITERACY PROGRAMME: NEED FOR ENRICHED APPROACH

K John*

ABSTRACT

This paper indicates the need, components of National information literacy programme. The status of information literacy programme in India with reference to the problems in launching a NILIP in India, and some suggestions have also been given to achieve the advantages of information literacy programme in this paper.

1 INTRODUCTION

This paper based on the study carried out on "Educating Users in context of Computerization and Networking of Libraries and Information Centers in India". For this study 124 best libraries and information centers of India had been covered to collect real data, and 509 users of these libraries and information centers were also covered to test the data given by the libraries and information centers.

With our first breath we start a journey of learning. It is an adventure-for life and for our development as professionals. Now, as we approach the 21st century, that journey is moving at a faster and faster pace, giving us access to gigabytes of information in picoseconds-and demanding more, often different, skills from each of us" (Duff.1999).

The present age is Information Age, and the pedagogic implications of this age are that people should learn new skills to use information stored on computers. Libraries and Information Centers have responded by acquiring information technology and encourage computer literacy. Most people are information illiterate, and it has a negative impact on society. The American Library Association stated, "that knowledge is the country's most

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precious commodity and that people who are information literate are our most valuable resource" (Breivik, 1992). It is clear that everyone needs these vital skills to survive in the Information Age.

"Access to vast amounts of information is not the whole answer. The power to discover the right information quickly and easily, to separate nice to know from need to know information is essential if superhighway users do not drown in electronic junk information ...An information flood does not necessarily mean that people become informed"(Kehoe, 1993).

Information Literacy has been identified as a 'core competence for the information age.

2 OBJECTIVES OF INFORMATION LITERACY

Objectives of information literacy programme include the development of skills and competencies that enable a client(s):

i) to recognise an information gap;

ii) to construct alternative strategies to reduce the information gap ;

iii) to select a strategy ;

iv) to act on a strategy to find and retrieve information ;

v) to assess the effectiveness of a strategy ;

vi) to acknowledge the sources of information and ideas; and

vii) to store the information for future use.

Ministry of Education, Science, Sports and Culture, Japan has composed Information Literacy in four parts, which also defines the objectives of information literacy:

i) Capabilities of judgment (evaluation), selection, organization, and processing of information as well as of information creation and communication;

ii) Understanding of characteristics of information society, effect of information user society and human beings;

iii) Recognition of Importance of, and responsibility for information; and

iv) Understanding of foundation of information science, learning of basic operation skills of information and information device (particularly computer) (Japan, Min of Edu., 1991).

In other words Information literacy is a learning process Such learning process should actively involve users in the process of:-

i) Knowing when they need information;

ii) Identifying information needed to solve a given problem or issue;

iii) Organizing the information; and

iv) Using information effectively to solve the problems or issues at hand.

3 SCOPE OF THE INFORMATION LITERACY

Information Literacy includes a range of literacy. The range of literacy is:

i) *Traditional Literacy*: to read and write;

ii) *Computer Literacy*: to understand and operate computers those are interfaces between information and end-users;

iii) *Media Literacy*: to understand different media storing networked information and use them;

iv) *Network Literacy*: Network literacy for library users consists of two aspects: knowledge of networked information and skills to locate, select, evaluate and use the networked information; and,

v) *Traditional Information Literacy*: to locate, select evaluate and use information effectively.

4 PROBLEMS INVOLVED WITH INFORMATION LITERACY IN INDIA

The transition to information services and knowledge-driven society is a global phenomenon. Many countries have created policies to speed-up the process of transition and many are in the process of doing so. If we have to maintain our competitiveness, so we must not delay in adopting any such programme.

As the implementation of facilities of information technology is a gradual process, and information literacy is also a gradual process and it goes in many steps. Several potential audiences for information literacy are identified as under:-

i) Librarians/Information Scientists/Professionals

ii) Library Support Staff

iii) LIS Students

iv) End User Groups

It is a known fact that both ends of library and information centers communication channel should be well trained to achieve the motto of the service through proper information literacy programme.

5 COMPONENTS OF NILIP

The users should be educated in a sequence so that they can enhance their capabilities and competitiveness about information and can use information more effectively and efficiently. The main components of such a programme are given below. These components are like a curriculum, which every library has to accomplish in sequence, by, which a user is able to:

i) Computer operational knowledge and skills

ii) Multimedia operational knowledge and skills

iii) Network operational knowledge and skills

iv) Informational Retrieval Skills

v) Standards and methods to evaluate results.

These components are only a sample outline for sequenced library sessions. These sequences may not be required for each user, and these may vary from library to library and user to user. Library & Information centers should adopt these components for the information literacy programme.

6 RESPONSIBLITIES VARIOUS AGENCIES OF NILIP

Any national level programme cannot be initiated or implemented without sharing the responsibilities. Government, the national level professional body, and the libraries and information centers, must share these responsibilities for developing NILIP.

6.1 Responsibility of Government

In a NILIP the government should share the following responsibilities:

i) It should provide sufficient funds to the monitoring authority and the libraries and information centers;

ii) It should make a pilot project for this purpose and make it necessary to be followed by each library (especially discipline oriented National libraries & S & T Libraries).

iii) Government should share the experience of international agencies like UNESCO, IFLA etc to make this programme possible and materialize.

iv) It should share the responsibility of curriculum development for NILIP, and should obtain expertise of national agencies like ILA, IASLIC and NCERT.

v) This programme can be carried out in several phases. These phases can be divided according to the national, regional, district and local libraries and information centers.

6.2 Responsibilities of Professional Bodies

Professional bodies (like ILA & IASLIC) can share the following responsibilities to materialize this programme:

i) Professional bodies should develop the curriculum for NILIP;

ii) Professional bodies can monitor the libraries and information centers with the help of any other agency.

iii) Professional bodies should take the help of experienced professional in the field to make a full proof NILIP programme

iv) Professional bodies can consult the interested professionals on the issues of course design;

v) Organize a series of workshops on the topics related to information literacy;

vi) Also develop techniques to assess the users' capability.

6.3 Responsibilities of Libraries & Information Centers

The libraries and information centers are the central point of NILIP, because these have to perform the groundwork for NILIP. Libraries and information centers should share the following responsibilities: -

Libraries and information centers have to follow the guide lines of NILIP;

i) The libraries have to make their users information literate;

ii) Libraries have to suggest the government and professional bodies to improve the programme;

iii) Schedule and teach library sessions, incorporating active learning techniques;

iv) Continuous and open workshops in order to provide development support;

v) Help users to keep their skills current and to alert them to the complexities of the contemporary information environment and need for information literacy for users.

7 RECCOMENDATIONS

To reap the benefits of information technology for our country and its citizens, we can make the following recommendations;

i) We all must consider the ways we have organized information institutionally, structured information access, and defined information's role in our lives at homes in the community, and at the work place. The degree and directions of reconceptualization will vary, but the aims should always be the same: to communicate the power of knowledge; to develop in each citizen a sense of his responsibility to acquire knowledge and deepen insight

through better use of information and related technologies; to instill a love of learning; a thrill in searching, and a joy in discovering; and to teach young and old alike how to know when they have an information need and how to gather, synthesize, analyze, interpret, and evaluate the information around them.

ii) A forum for NILIP should be formed under the leadership of ILA, in coordination with other national organizations and agencies such as IASLIC, NCERT, UGC, AICTE and IATLIS etc, to promote information literacy. This forum should monitor and report on state efforts to promote information literacy and resource-based learning and provide recognition of individuals and programmes for their exemplary information literacy efforts;

iii) Research and developments projects related to information and its uses need to be undertaken. Also needed is research that will promote a sophisticated understanding of the full range of the issues and processes related to the generation, distribution, and use of information so that the libraries can fulfill their obligations to their users and potential users and so that research and scholarship in all fields can flourish.

iv) Ministry of Human Resource Development, University Grant Commission and NCERT should be responsible to ensure that a climate conductive to users/students becoming information literate. Of importance are two complementary issues: the development of an information literary citizenry and the move from textbook and lecture style learning to resource-based learning.

v) Teacher education and performance expectations should be modified to include information literacy concerns.

vi) Libraries and information centers should educate their users in such a way, so that they should be familiar with and able to use selected databases, learning networks, reference materials, textbooks, journals, newspapers, magazines, and other resources. They also should expect their users to become information literate.

8 INTERNATIONAL SCENARIO

Several attempts have been made in this area in the developed countries. The key attempts are:-

i) The National Forum on Information Literacy, USA, 1990

ii) EDUCATE Project, Europe, 1993/1994.

iii) National informatization Programme, Ukraine and Russia, 1986

iv) Japans National Council on Education Reform, Japan, 1989.

v) Learning for the future, Australia, 1993,

There are other several programmes and policies of information literacy in the world, but the name of India is not in the list.

9 CONCLUSION

The above international scenario speaks that the developed countries are quite aware of the importance of information literacy and exploited information technology to make their citizens information literate. As far as information literacy in India is concerned, we can say that Indian Information Scientists, Professional Bodies and Government and the Policy makers did not take any concrete steps about information literacy. It may be because the libraries and information centers are still using conventional methods for their day-to-day functions and only a handful Scientific and Technical libraries are fully computerized and few are going to be computerized. As and when the computerization will complete, the programme of information literacy could be adopted. This is the right time for India to adopt the information literacy programme as early as possible in order to sustain its attempts to become a developed country.

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NEED FOR INFORMATION LITERACY ACTIVITIES IN THE CHANGING HIGHER EDUCATION ENVIRONMENT IN INDIA

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ABSTRACT

The paper presents a fast growing higher education scenario in the country and traces the impact of technology, particularly Information Technology in promoting higher education. Further it emphasizes the need for Information Literacy activities to enhance the better exploitation of information for various creative activities. The paper stresses the need for establishing the National Information Literacy Forum to develop Information Literacy awareness in the country.

1 INTRODUCTION

The modern higher education system is only 140 years old. When the first three universities were set up in 1857 in Bombay (Mumbai), Calcutta (Kolkata) and Madras (Chennai). The period of 90 years from 1857-1947 saw slow development of higher education system in India where only 18 universities were established. Education provided was limited only to few subjects such as Literature, History, Philosophy, Political Science, Social Science and Natural Sciences. Science education was given least importance and hence took back seat. At the time of independence there were only 20 universities and 500 affiliated colleges. But the country has witnessed phenomenal educational development both in qualitative and quantitative terms since independence.(Indian National Commision,1998). The higher education system of India has increased fourteen-fold in term of the number of universities and thirty-three-fold, in terms of the number of colleges in comparison to the number at the time of

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independence. There are 329 universities and 203 state universities in all at present. The Indian higher education system comprises of 18 central universities, 90 deemed universities, 5 institutions established under states legislation acts and 13 Institutes of National Importance established by central legislation, nearly 16,885 Colleges, including around 1,798 women colleges. At the beginning of the academic year 2004, the total number of students enrolled in the formal system of education in universities and colleges was 99.53 lakh of which 12.97 (13.03%) lakh in university departments and 86.57 (86.97%) lakh in affiliated colleges. There are around 4.6 lakh teachers in both colleges and universities in India. (Govt. of India, 2004-2005)

2 INFORMATION LITERACY

Information Literacy is an essential component in the educational development of each student. The research process has become increasingly challenging with technology contributing to information overload. Students should be aware of the range of print and electronic resources, including networked databases, the World Wide Web and traditional print resources. They need to be prepared to evaluate and make informed choices about the best sources for their needs. Every institution should foster optional use of its learning resources through strategies designed to help students develop information literacy [the ability to locate, evaluate and use information in order to become independent learners]. It is essential to have an active and continuing program of library orientation and instruction in accessing information developed collaboratively and supported actively by faculty, librarians, academicians and other information providers (Allen, 2000).

3 POTENTIAL OF INFORMATION LITERACY

Information Literacy is the ability to identify what information is needed and the ability to locate, evaluate and use information in solving problems and composing discourse. It encompasses a set of competencies that will provide for survival and success in an information technology environment. Teaching Information Literacy involves communicating the power and scope of information as well as explaining how information is organized, how it is retrieved through a variety of access sources and tools, and how to evaluate, organize and apply information to a variety of problems and situations.

According to Breivik "In this Information Age, it does not matter how well people can analyze or synthesise; if they do not start

with an adequate, accurate and up-to-date body of information, they will not come up with a good answer" (Doyle, 1994)

Some authors have repeatedly defined the information literacy by characterizing information literate person. In 1992 Doyle described information literate person as one who:

(i) "Recognizes that accurate and complete information is basis for intelligent decision making;

(ii) Recognizes the need for information;

(iii) Formulates questions based on information needs;

(iv) Identifies potential sources of information;

(v) Develops useful search strategies;

(vi) Accesses sources of information including computer-based and other technologies;

(vii) Evaluates information;

(viii) Organizes information for potential applications;

(ix) Integrates new information into an existing body of knowledge; and

(x) Uses information in critical thinking and problem solving" (ALA, 1989).

4 INFORMATION LITERACY FOR LIFELONG LEARNING

Information literacy forms the basis for lifelong learning. It is common to all disciplines to all environments and to all levels of education, while recognizing the disparities in learning styles and in the nature and development of literacy in different countries. It enables learners to master content and extend their investigations, become more self-directed. Information literacy aims to develop both critical understanding and active participation. It enables students to interpret and make informed judgments as users of information sources; but it also enables them to become producers of information in their own right, and thereby to become more powerful participants in society (Pejova, 2002)

Developing lifelong learners is central to the mission of higher and other educational institutions, and is increasingly reflected in descriptions of graduate qualities. Information literacy extends learning beyond formal classroom settings and supports individuals in self-learning in all arenas of life. Recent reforms in higher education have placed greater emphasis on the need for students to develop skills and competencies that will increase their

employability and lead to lifelong learning. There is an increased accountability for universities to ensure that students are acquiring the competencies that have been identified in teaching and learning plans (ACRL, 2000).

5 INFORMATION LITERACY MODELS IN HIGHER EDUCATION

A survey of the Literature published around the world especially in the developed countries in the form of documentary sources, conferences and seminar proceedings, case studies related to universities, institutes, countries and websites, standards, policy guidelines and reports are the inspiring indications to a developing country like India and even to other developing countries for that matter to catch up with the main stream. Professional associations, organizations and institutes of higher learning have brought out voluminous work in developed countries. A casual search in the Internet about Information Literacy programs and projects in developed countries shows a visible competition among institutes of higher learning in the opportunities they gave to students and develop their Information Literacy skills and make them lifelong learners. Enormous research has been carried out in the developed countries especially in USA, UK, New Zealand, Australia and Mexico. These countries have brought out the finding in the form of books, articles, country papers, reports, standards and policy guidelines. It has been noticed that the collaboration between the professional organizations and the universities in developed countries has helped alot in bringing out the standards and performance indicators to judge the Information Literacy competency of the students. In the higher education sector library and information professional bodies like Association of College and Research Library (USA), Council of Australian University Librarians (Australia) and Society of College, National and University Libraries (UK) have produced standards for Information Literacy.

6 IFLA – INTERNATIONAL GUIDELINES ON INFORMATION LITERACY

The International guidelines on Information Literacy have been compiled on behalf of the Information Literacy section of IFLA, with the aim of providing a pragmatic framework to those who need or who are interested in starting an Information Literacy Program from scratch. The guidelines will help libraries to guide their work to meet current information needs of those who are

engaged in educational programs in higher education. The guidelines have been developed based on the extensive work done in the countries like USA, UK, Australia, New Zealand and Mexico. The Information Literacy standards to become effective learners include three basic components- access, evaluation and use of information.

6.1 ACCESS

- The user access information effectively and efficiently
  - Definition and articulation of information need
  - Location of information

6.2 EVALUATION

- The user evaluates information critically and competently
  - Assessment of information
  - Organization of information

6.3 USE

- The user applies/uses information accurately and creatively
  - Use of information
  - Communication and ethical use of information (Lau, 2004)

7 INFORMATION LITERACY IN INDIAN CONTEXT

In the Indian context it is stated, "a literate person is one who has the ability to read 40 words per minute, write 20 words per minute and do 2 digit arithmetic". The literacy rate in 2001 has been recorded at 64.8 per cent as against 52.21 per cent in 1991. The 12.59 per cent increase in one decade. There has been significant decline in absolute number of non-literates from 328.88 million in 1991 to 304 million in 2001. This has also been accompanied by a narrowing of the gap in male-female literacy rate from 24.84 per cent in 1991 to 21.6 per cent in 2001 as female literacy recorded an increase of 14.41 per cent points i.e. from 39.29 per cent to 53.7 per cent as compared to male literacy which recorded an increase of 11.17 per cent points i.e. from 64.13 per cent to 75.30 per cent. (Govt. of India, 2004-2005). Indian government has taken many initiatives to make people literate. National Literacy Mission was set up in May 1988 with an objective to attain 75 per cent literacy by 2007 by imparting functional literacy to non-literates in the age group of 15-35 years, which is the productive and reproductive age group and constitutes a major segment of

the work force. But making people mere literate is of no use. Government initiatives across the country such as computerization and networking of departments call for training the people to become information literate. The initiatives such as Bhomi Project, Gyandoot, E-Post calls for training. People should know how to use these new technologies. Today there are numerous policies and standards for Education, Economy etc., but not a single policy document or report or guidelines for information literacy. Information Literacy concept has been widely discussed and implemented in national curricula as well as in tertiary non-formal and lifelong learning in developed countries. In the Indian context, there is no awareness of the term Information Literacy and its applications in higher education and lifelong learning.

8 INDIAN LITERATURE ON INFORMATION LITERACY

Glancing the literature published in India, it is observed that there is very little output. A few studies being carried out in India. There are no specific standards, reports and policy guidelines for Information Literacy brought out either by Government, professional associations or the institutes of higher learning. Today claim is made about e-governance, e-learning, e-society, e-economy, e-business, e-trade etc. but when it comes to Information Literacy, which aims to develop both critical understanding and active participation, no national policy document is there to guide. Information Literacy enables people to interpret and make informed judgments as users of information sources. Information Literacy is part of the basic entitlement of every citizen, in every country in the world, to freedom of expression and the right to information and is instrumental in building and sustaining democracy.

Literature survey of the work done in India shows that few Indian authors have published some papers/articles related to Information Literacy. It is interesting to see that all the authors belong to library profession and are teachers, research scholars or working professionals. Among these authors many have expressed that Information Literacy is the extension of Library Instruction and User Education and User Education programs have been used while discussing the Information Literacy Programs. Some of the authors have carried out surveys in the university libraries, where in they have mentioned that computer literacy and information literacy are synonymous. But the fact is that computer literacy (the ability to use a computer and its software to accomplish a task) is a component of Information

Literacy. It has also been noticed that India lacks the forums, reports, standards and policy guidelines for primary, secondary, adult and higher education.

Some of the authors have also discussed the role of Information Literacy in distance education. Programs that can be organized for the distance learning to enhance their Information Literacy skills have also been discussed.

8.1 Conferences at National Level: As far as the concept of Information Literacy is concerned none of the professional organization has organized the conferences/seminars/colloquia or workshop that is solely dedicated to Information Literacy. The Society for Information Science (SIS), in its 23rd Annual Convention had a sub theme on Information Literacy. Though the conference was not entirely dedicated to Information Literacy concept alone, but this is the first time in India, Information Literacy aspects were discussed at national level. Authors belonging to different parts of the country presented seven papers related to different aspects of Information Literacy. Some of the authors discussed the need of Information Literacy in digital environment and some pointed out the need of integrating Information Literacy in curriculum.

The literature produced around the world gives a clear indication that the library professionals have taken the initiatives in developing standards, guidelines and policy documents. Today, a developing country like India needs Information Literacy Standards and Policy Guidelines at all levels of education. This is possible only if the conferences, seminars and colloquia are organized at regional, state and national level and the concept of Information Literacy is discussed to bring out the Information Literacy Standards depending on the educational setup, policies and research needs of India.

It is hoped that the 51st Annual Conference of Indian Library Association (ILA) to be held at Kurukshetra University during Dec. 2005, having main theme "Information Literacy and Lifelong Learning" may come out with some concrete output in this direction.

9 METHODS OF IMPLEMENTING INFORMATION LITERACY PROGRAMS

To prepare the informed citizens there is an urgent need to promote Information Literacy by way of:

(i) Implementing Information Literacy to the fresh users;

(ii) Implementing Information Literacy in the General Education;

(iii) Integration of Information Literacy across the Curriculum at all levels ;

(iv) Collaborating faculty, librarians and other staff to promote Information Literacy program;

(v) Carrying out surveys and studies on the usefulness of Information Literacy;

(vi) Forming a National Information Literacy Forum;

(vii) Frequently conducting the workshops/seminars like training the trainers in order to upgrade the Information Literacy knowledge and skills of both librarians and faculty;

(viii) Preparing a modular curriculum for Information Literacy, targeting teacher education programmes, and

(ix) Designing the National Information Literacy Policies, standards and guidelines

The successful implementation of Information Literacy across the curriculum calls for close collaboration between faculty, academic administrators, library professionals, media specialists and other information professionals. They can be engaged in designing a curriculum for all levels of education in India. It can be implemented either in the library as part of User Education Programme or as a separate paper in undergraduate and higher education sector.

10 FORMATION OF NATIONAL INFORMATION LITERACY FORUM

A developing country like India is in urgent need of a National Information Literacy Forum where the teaching faculty, computer and communication experts, library professionals and media specialists can be engaged in order to develop Information Literacy standards and policy guidelines for all levels of education in India. Teachers from different subjects are required to work together in this forum, because, they are the one who know the comprehension level of the students. Library professionals are able to assist in resolving the complexities with access to information by inculcating information search skills. Media specialists are required in this forum so that they can make an attention compelling presentation of the Information Literacy Programmes for mass through their articulate skills. Collaboration

of these three group experts will definitely help in brining out quality Information Literacy promotion activities.

A National Information Literacy Forum would be more useful to have a dedicated website. It must have separate sections on Public Libraries, Academic Libraries (Both College and University), School Libraries and Special Libraries. The diagrammatic representation of the National Information Literacy Forum may have the following structure presented in Fig.1.

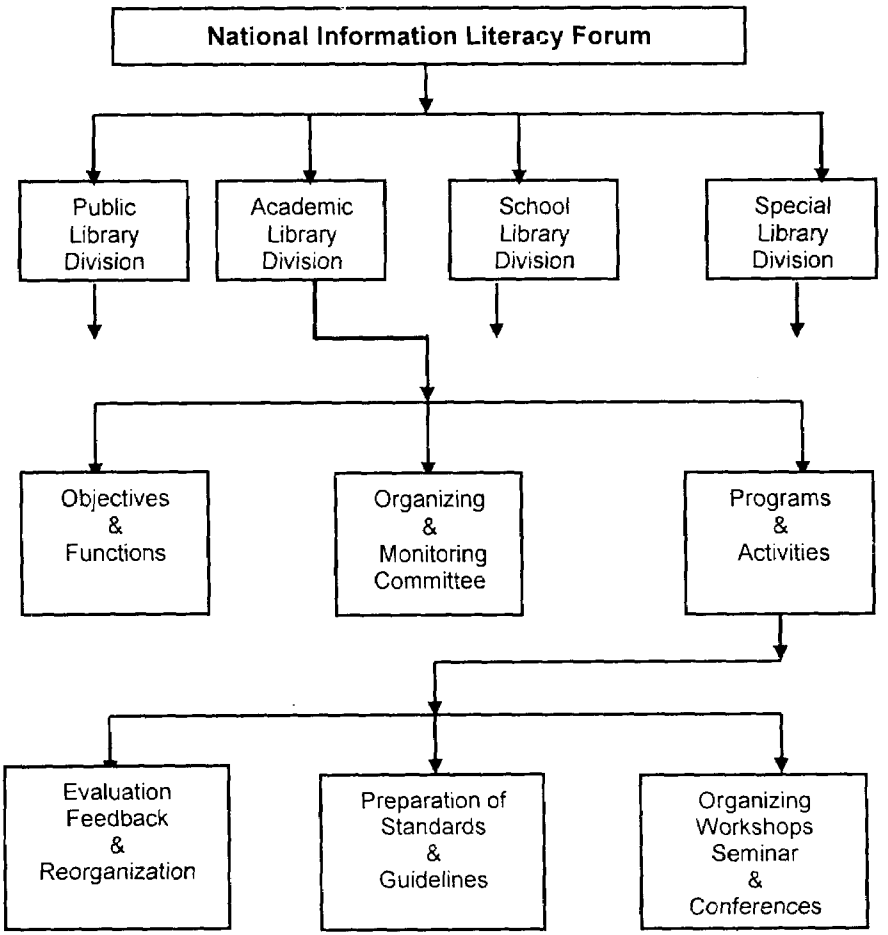


Fig. 1 National Information Literacy Forum

11 CONCLUSION

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 to 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 and increasing responsibilities in all walks of life.

The university or college has 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 are the information literate graduates; one who is 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 programs that immerse students into Information Literacy throughout their higher education. Institutions should go beyond the goal of producing graduates who are simply equipped to enter the workforce, and broaden their scope to produce enlightened graduates who are able to freely pursue happy lives and shape the information society of which they are a part. As individuals gain the ability to participate in society in an informed and reflective manner, society itself will improve. The ultimate goal of enhancing the knowledge of all citizens is to create a more humanistic society.

Many challenges will have to be addressed in workforce development and policy making through national and international collaboration to ensure that Information Literacy becomes part of policy-making in education and other governmental initiatives in India. Government should come forward and setup commissions and forums in order to prepare Information Literacy Standards and Policy Guidelines for all levels of education in India. Formation of National Information Literacy Forum will be the key to success.

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NEED FOR INFORMATION LITERACY EDUCATION IN KURUKSHETRA UNIVERSITY

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ABSTRACT

The paper describes a questionnaire-based survey of first year Postgraduate students in four departments of the university, to know their need for information literacy education.

1 INTRODUCTION

The knowledge society of twenty first century needs persons who deal with information the same way as an engineer handles his instrument or an architect designs a new building structure. The person must know what, where and how of information gathering and use. Larger part of individual's activities has some sort of information orientation; be it identification, storage, access, retrieval, consolidation or application of that information. In fact, an individual's future role shall be largely dependent on his/her ability to handle his required information dexterously.

This process initially starts simultaneously with one's educational process. After initial years' schooling, when one enters secondary schools and then colleges, the educational requirements ask for preparation of assignments, class tests, and a lot of other activities which involve information gathering and use. This continues till the formal education is over and thereafter acquires a still wider dimension in whatever career one chooses.

The older concept of reaching a terminal point in education with the completion of formal educational process is no longer valid today. The society particularly information and communication technology in it, has been changing at a pace never before witnessed by the human civilization. An innovation of last year is a

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trend today and shall become obsolete the next year. This requires constantly updating oneself to avoid a possible stigma of an outdated person. In order to be relevant one has to continuously learn all new skills throughout life.

It has another dimension of individual's empowerment. In liberal societies like ours, an influx of huge amounts of information of diverse nature is being made by mass media. An individual is at risk of being driven by others' opinion, which may have some ulterior motives. But if the person is having certain skills of finding the small truth from a large heap of information, he/she can have independent opinion and take right decisions whenever needed.

2 INFORMATION LITERACY

A generally acceptable definition was proposed by Association of College and Research Libraries (ACRL, 2004) in 2000, which defines IL as '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."' ACRL has prepared a quite elaborate document on IL, which defines the concept; describes its relationship with IT, education and pedagogy; and proposes five standards, twenty-two performance indicators and 87 outcomes describing specific behaviours that information literate persons are expected to display. According to ACRL, 'an information literate individual is able to:

i) Determine the extent of information needed

ii) Access the needed information effectively and efficiently

iii) Evaluate information and its sources critically

iv) Incorporate selected information into one's knowledge base

v) Use information effectively to accomplish a specific purpose

vi) Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally.'

A number of studies have been conducted on various aspects of the concept, and it had started even before the term IL became popular.

3 PRESENT SCENARIO

Kurukshetra University's Jawaharlal Nehru Library organises orientation lectures by professional library staff at the beginning of every new session. The lectures are delivered in the concerned departments. Besides this, the Internet services section provides hands-on training to new users on request. However, sometimes short-term Internet orientation courses are also organised.

4 OBJECTIVES OF THE STUDY

The present study was conducted to know the need for IL education in Kurukshetra University. Students learn many of these skills on various occasions like class-room teaching, preparation of write-ups on computers, preparation for debates, quizzes, essay competitions, etc. In this study, a general view of their preparedness for IL requirements was intended to be identified so as to suggest some measures to strengthen the present efforts in this direction.

5 SELECTION OF THE SAMPLE

The selection of the sample for the study are selected from the first year PG students of four departments of the University: Library and Information Science (Lib. & Inf. Sc.), Tourism and Hotel Management (Tour. & Hotel Mgt.), Physics and English were surveyed to identify their IL needs.

6 METHODOLOGY

The study was conducted using a questionnaire consisting of 15 questions on various aspects of information search; computer and Internet use; and presentation of information. The survey was conducted in Kurukshetra University during second week of November 2005. The investigators visited all the four departments and briefly explained the purpose before requesting the respondents to participate in the study.

An overall response of 109 usable filled-in questionnaires was quite encouraging. In general, 57 male and 52 female respondents participated in the study. Discipline-wise, 22 participants each from the departments of Lib. & Inf. Sc. and Tour. & Hotel Mgt. participated while the number of respondents from

the departments of Physics and English was 33 and 32 respectively.

7 FINDINGS OF THE STUDY

The response of the study was mainly analysed discipline-wise to see any possible variation. In the tabular presentation of response only positive response of Yes/No type of category variables has been shown. But, statistical tests were applied on the entire data and results have been shown in the tables. The asterisk mark (*) on the value of Chi-square (χ^2) shows the difference in the response as significant at .01 level.

Table-1 shows respondents' purpose of information requirement. There were multiple responses on this question, but the students of the university most frequently needed information for general subject study. Highest number of Lib. & Inf. Sc. students (63.6 %) needed information for preparation of their assignments, while students of Physics needed information mainly for presentation of seminar (54.5 %). There was low response for examination as the highest number of 34.4 % students from English responded for it. When the response of different disciplines was subjected to statistical testing, it was revealed that students differed significantly on the issues of assignment and seminar; while on examination and general subject study there was no significant difference in their information needs. When the response was examined with male and female categories, no significant difference was observed in their information needs.

Table-1: Purpose of Information Requirements

Sl. No.	Discipline	Assignment Freq. (%)	Seminar Freq. (%)	Examination Freq. (%)	Gen. Subject Freq. (%)
1	Lib. & Inf. Sc.	14 (63.6)	01 (4.5)	06 (27.3)	13 (59.1)
2	Tour. & Hotel Mgt.	08 (36.4)	08 (36.4)	03 (13.6)	09 (40.9)
3	Physics	01 (3.0)	18 (54.5)	07 (21.2)	13 (39.4)
4	English	02 (6.3)	3 (9.4)	11 (34.4)	16 (50.0)
5	Total	25 (22.9)	30 (27.5)	27 (24.8)	51 (46.8)
6	χ^2 (d. f. 3)	35.301*	24.048*	3.346	2.500

The respondents were asked to mention the sources of information used for satisfying their required needs. Table-2 shows that every three out of four respondents used library resources while 55% of them used their teachers. Only 26.6 % used Internet while the equal number used their classmates. As

much as 97 % Physics students used library; they were also on the top in consulting their teachers (78.8%) and classmates (39.4%) for information. The lowest number of respondents (50%) from Tour. & Hotel Mgt. used library, but they used Internet most frequently (77.3%). The Lib. & Inf. Sc. students used library (77.3%) and consulted their teachers (68.2%) frequently. The highest number of respondents (25%) from English used T.V. & Newspapers for their required information. when the subject-wise response on different sources was subjected to statistical testing, a significant difference in the response was observed on consulting teachers and use of Internet only. When the same response was tested gender-wise, it was found to be significantly different on use of library and Internet. While male students (43.9%) use Internet more than females (7.7%), the female students (86.5%) use library more than their male classmates (63.2%).

Table-2: Sources of Information Used

Sl. No.	Discipline	Teachers	Class-Mates	Library	T.V. & Newspaper	Internet	Others
1	Lib. & Inf. Sc.	15 (68.2)	6 (27.3)	17 (77.3)	2 (9.1)	2 (9.1)	-
2	Tour. & Hotel Mgt.	8 (36.4)	7 (31.8)	11 (50.0)	3 (13.6)	17 (77.3)	2 (9.1)
3	Physics	26 (78.8)	13 (39.4)	32 (97.0)	6 (18.2)	10 (30.3)	1 (3.0)
4	English	11 (34.4)	3 (9.4)	21 (65.6)	8 (25.0)	-	1 (3.1)
5	Total	60 (55.0)	29 (26.6)	81 (74.3)	19 (17.4)	29 (26.6)	4 (3.7)
6	χ^2 (d. f. 3)	17.680*	7.940	17.053	2.570	44.210*	2.732

The respondents were asked to indicate the type of documents they frequently used. The overall response in Table-3 shows that only textbooks were used by the majority of the respondents (70.1%) and second highly used document category was general books with 39.2% response. As much as 95.0% students of Lib. & Inf. Sc. used textbooks and Physics students with 87.9% response closely followed them. The highest use of dictionaries (47.1%) and yearbooks (41.2%) was made by the students of Tour. & Hotel Mgt. Response in the others category includes encyclopaedias, bibliographies, and indexing and abstracting sources. The response of male and female students was quite similar in use of different types of documents.

Table-3: Use of Documents

Sl. No.	Discipline	Dictionary	Yearbook	Textbook	General Book	Journal	Others
1	Lib. & Inf. Sc. N=20	9 (45.0)	2 (10.0)	19 (95.0)	5 (25.0)	2 (10.0)	6 (30.0)
2	Tour. & Hotel Mgt. N=17	8 (47.1)	7 (41.2)	7 (41.2)	6 (35.3)	1 (5.9)	1 (5.9)
3	Physics N=33	-	4 (12.1)	29 (87.9)	19 (57.6)	2 (6.1)	-
4	English N=27	8 (29.6)	1 (3.7)	13 (48.1)	8 (29.6)	2 (7.4)	5 (18.5)
5	Total N=97	25 (25.8)	14 (14.4)	68 (70.1)	38 (39.2)	7 (7.2)	3 (3.1)

There were different questions on respondents' ability to use information sources. Table-4 reveals that every three out of four respondents (75.5%) need help in searching their required document in the library and more than that (79.6%) need help in using them. A slightly lesser number of them (70.2%) need help in using Internet. Interestingly the students of Physics needed least help for performing all the three activities. This may be because of their frequent use of Internet. They also frequently use the resources of their departmental library well known to them. The highest number of respondents needing help in document search (93.8%) and their use (90.6%) were from English while in case of Internet use it was Lib. & Inf. Sc. (82.4%). The Lib. & Inf. Sc. students' response may be because of their 9 a.m. to 5 p.m. schedule of classes leaving least time for Internet use. Despite these variations the students of different departments differed significantly in their response only on searching for their required documents. The gender-wise investigation also yielded no significant difference the response of male and female respondents.

Table-4: Assistance Needed for Information Activities

Sl. No.	Discipline	Documents Search N=106	Documents Use N=103	Internet Use N=94
1	Lib. & Inf. Sc.	17 (81.0)	14 (66.7)	14 (82.4)
2	Tour. & Hotel Mgt.	17 (85.0)	19 (90.5)	15 (71.4)
3	Physics	16 (48.5)	20 (66.7)	14 (53.8)
4	English	30 (93.8)	29 (90.6)	23 (76.7)
5	Total	80 (75.5)	82 (79.6)	66 (70.2)
6	χ^2 (d.f. 3)	20.080*	10.502	5.140

The respondents were also asked to state the problems they faced in searching and use of library resources. Table-5 shows

that highest number of respondents faced problem due to broken sequence of library documents. This may be due to frequent shifting of books in the library to make room for additional Internet services facility. All the Physics students faced this problem while only 45.5% from English faced it. Only 24.6% found subject arrangement difficult.

Table-5: Problems faced in Library Use N=65

Sl. No.	Discipline	Library Catalogue	Subject Arrangement	Broken Sequence	Others
1	Lib. & Inf. Sc.	2 (16.7)	1 (8.3)	10 (83.3)	2 (16.7)
2	Tour. & Hotel Mgt.	4 (33.3)	4 (33.3)	8 (66.7)	1 (8.3)
3	Physics	-	5 (26.3)	19 (100.0)	-
4	English	6 (27.3)	6 (27.3)	10 (45.5)	1 (4.5)
5	Total	12 (18.5)	16 (24.6)	47 (72.3)	4 (6.2)

The respondents were asked to state the place of their use of Internet and problems they face in it. Table-6 makes it clear that only 61 respondents answered the question. An overwhelming 80.3% used Internet facility provided by the university library. The response for other two categories, residence and cyber café, was much lower.

Table-6: Use of Internet Facility N=61

Sl. No.	Discipline	Residence	Cyber Cafe	University Library
1	Lib. & Inf. Sc.	2 (18.2)	-	8 (72.7)
2	Tour. & Hotel Mgt.	2 (10.0)	2 (10.0)	18 (90.0)
3	Physics	1 (6.3)	2 (12.5)	14 (87.5)
4	English	3 (21.4)	2 (14.3)	9 (64.3)
5	Total	8 (13.1)	6 (9.8)	49 (80.3)

The respondents were also requested to state the problems faced by them in the use of Internet. The response indicated that they most frequently encounter problems in downloading information (30.6%), followed by printing (28.6%), using e-mails (22.4%), URLs (20.4), browsers (20.4) and search engines (14.3%).

Having asked questions on searching of various information sources and problems faced in their use; the respondents were asked to rate their success in self-searching the required information. The percentage of their successful attempts was to

be given in a five-point scale encompassing the range of 0% to 100%. The mean scores of the response in Table-7 show that relatively higher success rate was observed in use of Internet than in library. The students of English and Tour. & Hotel Mgt. used library and its resources more successfully than those of other two disciplines while the students of Physics, Tour. & Hotel Mgt., and English used Internet more successfully than those of Lib. & Inf. Sc. The poor success rate of library use by Lib. & Inf. Sc. students may be because of their schedule of classes, library timings and their use of wide variety of information sources. The difference in the response on both the aspects was not found to be statistically significant in both the variables discipline and gender.

Table-7: Mean Scores of Success in Self-searching

Sl. No.	Discipline	Library Use N=102 Mean (S.D.)	Internet Use N=83 Mean (S.D.)
1	Lib. & Inf. Sc.	2.33 (0.97)	2.23 (1.01)
2	Tour. & Hotel Mgt.	2.57 (1.12)	2.77 (1.15)
3	Physics	2.40 (0.94)	2.88 (1.12)
4	English	2.61 (0.98)	2.56 (0.84)
5	Total	2.49 (0.99)	2.66 (1.05)
6	F-value (d.f.)	0.424 (3, 98)	1.246 (3, 79)

There were two questions on presentation of information. The first was intended to know whether the respondents cited the documents they used in preparation of their assignment/seminar presentation, and the second was on the use of computer. Table-8 displays that 75.3% of all respondents cited documents in their assignments, and 95.0% of Tour. & Hotel Mgt. students followed this practice.

A large majority of the respondents (67.3%) presented their assignments handwritten and only 22.4% prepared these themselves on computers. Contrary to the general trend, the majority of the students of Tour. & Hotel Mgt. prepared their assignments on computer, either themselves (45.5%) or through others (18.2%). This variation in the response was statistically quite significant at .01 level meaning the students differed in their practices of presentation of information.

Table-8: Presentation of Information

Sl. No.	Discipline	Citation Use N=93	Handwritten N=107	Self on Computer N=107	Others on Computer N=107
1	Lib. & Inf. Sc.	16 (80.0)	19 (90.5)	2 (9.5)	-
2	Tour. & Hotel Mgt.	19 (95.0)	8 (36.4)	10 (45.5)	4 (18.2)
3	Physics	18 (69.2)	29 (87.9)	4 (12.1)	-
4	English	17 (63.0)	16 (51.6)	8 (25.8)	7 (22.6)
5	Total	70 (75.3)	72 (67.3)	24 (22.4)	11 (10.3)
6	χ^2 (d. f.)	7.129 (3)	27.946* (6)		

Only 54 respondents replied the question on software use ability. 77.8% of the respondents were able to use MS-Word. Only 20.4% each were able to use MS-Excel and MS-Power Point and one respondent was able to use SPSS. Six of the seven responding students of Physics were able to use MS-Excel and 31.3% from the Tour. & Hotel Mgt. could use MS-Power Point.

8 CONCLUSION

The students have low awareness of their information needs as none of the need could get even a simple majority response. They depend mainly on library and their teachers for information. The Physics students make maximum use of these sources while Tour. & Hotel Mgt. students make extensive use of Internet. The first year Masters' degree students mainly use textbooks and to a quite lesser degree general books. The Lib. & Inf. Sc. students use a wider variety of documents. Interestingly Lib. & Inf. Sc. and Tour. & Hotel Mgt. students make good use of dictionaries. The students need help in both the aspects of library use: searching the document and using it. They also need help in using the Internet. The need is further highlighted by the low success rate in self-use of both library and Internet. Although, students cite the documents they consult for preparation of their assignment etc. they generally submit these assignments handwritten. Only the students of Tour. & Hotel Mgt. submits computer prepared assignments.

In the light of the above, it is suggested that a systematically planned IL programme should be launched. It may have coordination with the computer practical papers independently

offered by different departments. The university library may offer the programme and a regular faculty liaison with subject background may be appointed for broader academic fields. The nature of IL course may be decided in consultation with faculty in the concerned departments. There may be different courses for fresher, researchers, etc. The course should have flexible delivery mechanism; be offered in both instructor provided and self-learning mode; and should cover both print and e-environment.

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NEED OF THE MANAGERIAL SKILLS FOR LIBRARY PROFESSIONAL

Rajesh Kumar*

ABSTRACT

The paper discusses the need of the managerial skills for the library professionals. The objective is to present the importance of managerial skills in present time. It also talks about function of library management, types of managerial skills and how it is benefited to library professional. It is also discusses that a library professionals who have the managerial skills perform better and maintained library better.

1 INTRODUCTION

In early times man knew little. He could store the information only in his little brain. With the passage of time the tradition of verbal transfer of information came into existence. However information continued to grow and man had to resort to recording on mediums like rocks, papyrus and paper. At one time, a library was regarded as a storehouse and books were meant for preservation. The librarian was supposed to be a custodian, who did not encourage the use of books. The readers were expected to use the library on their own. At the most, if a reader asked for a book, then so called librarian would pass on the book and leave him alone. Now scenario has been changed today, information is growing at an unimaginable pace, leading to an information explosion. Libraries are organic, living, changing bodies of information and they are becoming increasingly "bionic" as their traditional, printed resources are being enhanced and extended through electronic technology. A library is considered as an "organization" within an "organization" as it deals with planning, co-coordinating, controlling and directing functions.

2 MANAGEMENT SKILLS

A skill is ability acquired through education and training which can

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convert knowledge into performance. Skills are essential to achieve set objectives. Skills are aspects of human behavior that are learnt and improved with practice.

3 MANAGERIAL SKILLS FOR LIBRARY PROFESSIONAL

A library professional that has managerial skills can easily grow. In the Info-tech age the concept of library is totally changed. So all library professional are required to possess the following managerial skills to perform their duties:

3.1 Communication Skills

Communication skills are most important and necessary at all levels of management. Communication is natural to all living creatures. Communication is established even between human and non-human beings if they live together. Communication skills are most important and necessary at all levels of management. Communication always has a purpose. We communicate because we want to make someone do something or take some action, or think or feel in a certain way. Communication is the way library leaders can bridge the gaps, stay in touch, build trust, monitor performance and attain the concerted vision. The best communication process forces one to listen, without good listening, the transfer of meaning is impossible. Simplicity and clarity in communication are very important. Proper communications help in controlling, misunderstanding conflicts and improving co-ordination in the groups. Reading, writing, learning, speaking, listening, presenting are also the important communication skills.

3.2 Technical Skills

Technical Skills implies an understanding and proficiency in a specific kind of activity, particularly one involving methods, procedures, or techniques; it involves specialized knowledge, analytical ability within that specialty, and facility in the use of the tools and techniques of the specific discipline. Vocational and on-the-job training programmes largely do a good job in developing this skill. In organization, head of department or unit is to be chosen on the basis of some prerequisite qualities and qualifications. These skills basically involve the use of knowledge, methods and techniques in performing a job efficiently and effectively. For example; to become a librarian a person must have formal education in library & Information Science with some experience and technical degree.

3.3 Decision Making Skills

Good decisions are at the heart of good management. We are all decision makers. Every aspect of our lives-as managers, family members, librarian, and citizens-is governed by decisions. Decision-making skills are very important to library professional. Making a decision is much more than taking it. Like it or not, no decision will be successful without the co-operation, commitment and enthusiasm of your colleagues, team or users. Making a decision begins when we realize that something needs to be done.

3.4 Motivating Skills

Motivating other people is about getting them to move in the direction you want them to go in order to achieve the task. Motivation can be described as goal-directed behaviour. People are when they expect that a course of action is likely to lead to the attainment of a goal and a valued reward is one which satisfies their needs. Motivation starts when someone consciously or unconsciously recognizes an unsatisfied need. This need establishes a goal and action is taken which it is expected will achieve that goal. Motivational skills are also important managerial skills.

3.5 Leadership Skills

Leadership is a topic of great importance to people who are leaders, who aspire to be leaders, or who are on the receiving end of leadership. Leadership is the process of inspiring individuals to give of their best to achieve a desired result. It is about getting people to move in the right direction, gaining their commitment, and motivating them to achieve their goals. Leadership skills can be considered to be the personal qualities, behaviours, styles and decisions of the leader. According to Ralph Nader "The function of leadership is to produce more leaders, not more followers" Leadership skills are very important for 21st century library Professionals.

3.6 Performance Skills

Performance management is a term being used increasingly to cover a number of personnel techniques. Performance development provides a means of communication what is happening within the organization and demonstrating its future direction in a way that has immediate meaning to the individual members of staff. Only that library professional who is performing well is called truly librarian. In some professional colleges employee gets special salary & promotion on performance basis.

Library services may be improved through high performance of library professionals.

3.7 Team Building Skills

Groups develop into teams when all the members understand their common purpose. In effective teams each member plays an assigned role using his or her talent to the best advantage. Most wins or losses are the results of teamwork. In sports, feedback is often immediate. If teamwork is lacking, good managers can identify where the problems are, and initiate corrective action in order to change things until the desired results are achieved. The absence of teamwork at any level (or between levels) will limit organizational effectiveness and can eventually kill an organization. Team building concepts can be applied in any organization. In library only librarian can not maintained library alone. Without team building efforts library can not grow.

3.8 Time management Skills

According to Dr. S. R. Ranganathan's fourth law "Save the time of the user", it means he indicates about time management for library professional & user both. In this turbulent world we never seem to have enough time. Very few people have a true picture of how they spend their time. Working long hours is not necessarily a sign that you are overloaded with work. It can mean that you need to develop your time management. So Planning is a vital element of time management.

3.9 Effective Thinking Skills

Thinking is an integral part of human existence. To gain maximum happiness and fulfillment we require a repertoire of thinking skills. Thinking skills helps the library professional both to prevent avoidable problems and to manage unavoidable problems construct.

3.10 Interpersonal Skills

Interpersonal or interactive skills are those used by people to build and maintain relationships with one another in order to achieve a purpose. Interpersonal skills are exercised when someone, for example an appraiser, initiates action to achieve an aim, which is dependent on the reaction and agreement of another person.

4 CONCLUSION

To minimize the expense and maximize the output, managerial skills are must to library professionals. Especially to information

management in the environment of advanced technological tool and highly flexible /sophisticated manpower, some soft skills are to be needed to handle them accordingly. Managerial skills, which are very common, like communication, motivation, leadership, performance, teambuilding, and time management skills. A lot of library in India (Especially in academic library) does not have trained & skilled library professionals. So a training program regarding management skill is required in regular basis, that would be definitely enhance and upgrade their skills in the functioning of the libraries. On the basis of above discussion we can say that managerial skills are very important to library professionals.

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PROMOTING INFORMATION LITERACY IN HIGHER EDUCATION

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ABSTRACT

In this information age it is a necessity for all students, staff and faculty to be accomplished information users. Information literacy is key characteristics of life-long learning and an essential element of higher education. Promoting information literacy skills at all levels of education is the collective responsibility of teachers, librarians and administrators. The paper is focusing on literacy and information literacy in relation to higher education and role of teachers and librarians in promoting it in higher education.

1 INTRODUCTION

The increasingly complex world in which we live today contains an abundance of information choices- print, electronic, image, sound, visual and numeric. As a result, the libraries have seen enormous change in the style of reference work that is done by the librarians. Before the arrival of publicly accessible online databases and catalogs, there were clear lines regarding "doing reference" and teaching how to use the library. Librarians worked on reference questions that involved using several sources in order to find the simple reference question and taught classes on how to use the library and its resources. During 1990's libraries experienced a dramatic impact due to the development of the Internet and more specifically the WWW. This results in libraries to offer their patrons access to web-based databases and multiple online catalogs gave patrons unprecedented access to various information resources. Today, the issue is no longer one of not having enough

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information; it is just the opposite- too much information, in various formats and not all of equal value.

The information that is available through libraries, community resources, special interest organizations, media and internet and increasingly information comes to individuals in unfiltered formats rising question about its authenticity, validity, reliability. In addition, information available through multiple media poses new challenges for individuals in understanding the landscape of information and to acquire knowledge of how to gather, evaluate and use information in today's world. Today, the students within the college and university can benefit throughout their lives from learning a process by becoming information literate. That is, acquiring the skills required to intelligently and systematically find, interpret, select, evaluate, organize and use information for a specific purpose. Information literacy therefore, is increasingly important in the contemporary environment of rapid technological change and proliferating information resources. It forms the basis for lifelong learning. It enables learners to master content and extend their investigations, become more self-directed and assume greater control over their own learning.

2 INFORMATION LITERACY AND HIGHER EDUCATION

Promoting information literacy skills is increasingly important as it is an essential element and a key characteristics of life-long learning which is central to the mission of higher education institutions. Educational reform and restructuring make information literacy skills a necessity as students seek to construct their own knowledge and create their own understandings. In addtion, accreditation bodies have recognized the value of information literacy as it encampass the critical array of skills concerns anyone working in a knowledge-based environment.

Higher education, today, has made available a variety of new information resources and evolving array of information technology and access structures, including computers, software applications and databases that supplement its print-based knowledge resources and present new complexities for teachers and learners. How to develop and utilize knowledge and skills and discipline, specific investigating methods to identify, access, retrive and apply relevent content is a challenge for the future of learning and teaching in universtity and colleges.

Studies have shown that students are entering college and university environments without fundamental research and information competence skills (for example, the ability to formulate a research question, then efficiently and effectively find, evaluate, synthesize, and use information pertaining to question). Students may have picked up the skills to send electronic mail, chat, and download music and many have not learnt how effectively locate information; evaluate, synthesize and integrate ideas; use information or give proper credit for information used.

The California State University's information literacy assessment studies conducted in 2000 and 2001 provide rich data about students search behaviour patterns. The study finds that students tend to exhibit an overreliance on Web based information resources and sources found through search engines, as opposed to other sources such as information found in library catalogues and subscription databases. In addition, students often search using keywords rather than controlled vocabullary terms. A keyword search retrives information from anywhere in the record; a controlled vocabullary uses subject terms, so the retrival is likely to be more relevant. Thus they often miss important sources of information. They often do not make distinctions between scholarly and popular works, and they tend to embrace WWW over the tradititional library because of convenience, flexibility and access to what is perceived to be large amount of current information. As a result, students may run the risk of accepting whatever information is displayed from a search engine, placing greater value on current sources of information than on the more in-depth that are often found in books

It is clear that the digital environment influences how students search for information and poses complex challenges for them in becoming information literate. A particular challenge of today's students is to understand the relationships between types of information resources, how to evaluate the appropriateness and reliability of these resources, and how to make intelligent choices among them. This gives student a multiple experiences to practice and own information literacy skills.

3 INFORMATION LITERACY AND CURRICULUM

To become effective information users, students must have frequent opportunities to handle all kinds of information. Locating, interpreting, analyzing, synthesizing, evaluating, and communicating information should become a part of every subject

across the curriculum. Gaining skills in information literacy multiplies the opportunities for students' self-directed learning, as they become engaged in using a wide variety of information sources to expand their knowledge, ask informed questions, and sharpen their critical thinking for still further self-directed learning.

Ideally, a student is introduced to information literacy at the beginning of his/her freshman year in a required cource such as "introduction to University life," "expository writing and Research," or "Technology and Information." It is even better if the student learns about information literacy principles in a cource such as "Fundamentals of Information Literacy" that is linked to a freshman learning community, with library assignments aligned with assignments in other cources. Librarians and discipline fauculty can work together to create assignments that demonstrate how well students have learned, applied and communicated information literacy principles (for example, examination of case studies, analysis of open-ended problems, creation of class presentations, poster sessions, written reports, research logs, Web sites, or power point presentations, presentation of examples, etc.,)

Incorporating information literacy across curricula, in all programs and services, and throughout the administrative life of the university requires sustained partnership between faculty, librarians, and administrators. Through lectures and by leading discussions, faculty should establish the context for learning and inspire students to explore the unknown, offer guidance on how best to fulfill information needs and also monitor students' progress. Academic librarians should coordinate the evaluation and selection of intellectual resources for programs and services; organize, and maintain collections and many points of access to information; and provide instruction to students and faculty who seek information. Administrators should create opportunities for collaboration and staff development among faculty, librarians, and other professionals who initiate information literacy programs, lead in planning and budgeting for those programs, and provide ongoing resources to sustain them.

The curriculum should be designed in such a way that it does look like campus-wide, problem-based, enquiry-based, resource-based and learner centered where students can able to continue to encounter information literacy oppurtunities throughtout the curriculum and acquire a solid foundation of information literacy skills and also demonstrate these skills in the class room. the

laboratory, the field or elsewhere through creative or research activities.

4 ROLE OF TEACHERS

The information literacy program calls for teachers to play a vital role and develop new ideas in teaching and learning process. Because faculties are seen not only as deliverers of information, but also facilitators to help students learn how to approach and use information resources effectively. Increasingly, faculty should create environments that challenge students to learn about a topic or solve a problem using information resources that they have located. This resource-based mode of education has created a greater need to teach students how to access and evaluate appropriate information resources and use them effectively. Teachers, professors, teaching assistants, librarians, administrators, and the community must collaborate to develop ways to involve the students not only in using classroom materials but also in using resources from the broader community and the mass media.

Teachers must be prepared to "teach students to become critical thinkers, intellectually curious observers, creators, and users of information." The goal is to prepare students early on to "learn how to learn" and carry these skills into other areas of their lives so that they can be independent seekers and consumers of information throughout their lives. Teachers of all subjects must blend their traditional fact-based approach with an emphasis on learner-based inquiry and the scientific inquiry process. This means shifting some of the responsibility of gaining knowledge from the teacher to the student and allowing students to develop questions, strategies to search for answers, and formulate conclusions.

Concurrently, the institutions of higher education should also have responsibility in promoting information literacy That is, to address the information literacy needs and awareness of faculty, provision should be made to:

i) Establish new faculty orientation workshops to introduce the concepts and curriculum of information literacy.

ii) Hold annual workshops for all faculties to introduce new and improved products and services.

iii) Work in a consultant role with other teaching faculty by developing models of collaborative instruction where information literacy skills can be built into the curriculum.

iv) Provide an office or learning laboratory dedicated to the support of librarian/faculty collaboration and faculty needs in course and assignment design.

v) Promote currently existing library services and expertise to facilitate the research process.

5 ROLE OF LIBRARIANS

Librarians 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 impact of moving from text-based learning to resource-based learning will involve heavier use of library materials and a demand for more and varied media resources, including print and non-print. Librarians are key personnel in the implementation of resource-based programmes. They can design an information literacy curriculum, which matches student capabilities, because they have the expertise and knowledge to teach these skills. They are leaders in new information technologies as well as extended resources across many disciplines. Their experience with information-finding tools gives them a context for the application of new tools such as the World Wide Web. In partnering with teachers, they can take the responsibility to integrate and design information literacy competencies into their course assignments. Above all, first and foremost, they must accept that they are good educators and knowledge managers.

Today, librarians are really in the most favorable position to be the leaders in developing an information literate community. Despite the long history of instruction in the use of libraries, information resources, search strategy and now information literacy there has been a lack of attention to teaching as a core function of the academic library. For the librarian to undertake this core activity effectively there needs to be:

i) Strong commitment from the institutional and library administration,

ii) Educate and reeducate themselves and acquire knowledge, skills and competencies.

iii) Cultivate the concept of life-long learning through information literacy skills, acquired and developed both in the college and in the library.

iv) A library staff proficient in instruction and able to work effectively with faculty to implement institutional change, and

v) A faculty who cooperatively team with librarians and other information-handling professionals involved in the institution.

The institutions of higher education should also pay attention to promote information literacy in a way by developing statement of mission or goals. The goals should be to:

i) Prepare Librarians to become effective teachers of information literacy programs.

ii) Support Librarians and other educators and administrators in playing leadership roles in the development and implementation of information literacy programs.

iii) Forge new relationships throughout the educational community to work towards information literacy curriculum development.

iv) Offer opportunities for growth and development in the changing field of information literacy.

6 CONCLUSION

Information literacy must become the possession of every individual. It is the responsibility of the entire college and university to help their students to become information literate, an essential element for future success. Information literacy skills are crucial for students to succeed in their carriers and communities of the information age. The librarians are well equipped to teach such skills, but need the support of the entire university community. Integration of an information literacy skills into subject areas and collaboration with faculty, administrators, technologists and other higher education professionals appear to be key factor in the success of an information literacy program. Information literacy concepts are ideally introduced and reinforced throughout the entire academic program and should be linked to ongoing coursework and real-life experiences. It will be more effective when delivered with a planned curriculum with distinct, sequenced content and through variety of delivery options such as information literacy models, web-based tutorials, credit courses, etc..

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RANGANATHAN'S FIVE LAWS AND INFORMATION LITERACY

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ABSTRACT

The paper discusses Ranganathan's five laws of library science and its implications in the context of Information society and Information Literacy. Defines Information and Information literacy. The five laws are restated, reinterpreted and redefined in relation to information literacy. Points out the relevance of the laws in the changing Library and Information scenario. Urges to adopt Information technology and to learn, themselves and to implement the laws in words and spirit to march towards Information Literacy in the Information Society of the 21st century.

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ROLE OF LIBRARIANS AS PRESENTED IN THE INFORMATION LITERACY MODELS

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ABSTRACT

The paper defines the term information literacy. Discusses the information literacy models prescribed by US National Commission on Library and Information Science, ALA, U.K. Standing Conference of National and University Libraries. The role of librarians in imparting information literacy is discussed. An account of the Indian scene is presented. Paper suggests a phase wise approach for the development of information literacy in India. The importance of information literacy for the distance learners also is discussed.

1 INTRODUCTION

The post-industrial society is characterized by the evolution of advanced telecommunications technology and the evolution of computers. The computers and the network of telecommunication systems together have converted the world into a global village. Use of short messaging service over cell phones, use of ATM cards and e-mail has become quite common in modern society. Now we can see the new ways and methods by which social and economic exchanges are conducted, knowledge is created, retrieved and utilized. To be an active member of this society one needs to be aware of these methods and the jargons associated with it.

It was once said that if you were not able to use computers you would be an illiterate. But the scenario has now changed. The development of Internet from the simple ARPANET in USA to a World wide information super highway caused the unimaginable volume of information output. It also helped quick and easy information transaction in the form of www, e-mail, Newsgroups etc. Everyone is expected to cope with the tremendous volume of

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information output from all over the world. One's ability to trace out the required information at the required time makes a person a winner. To feel the requirement of information, searching the relevant item and making its maximum use are all considered as the abilities in this information era. "Give a man a fish, feed him for a day; teach a man to fish, he feeds himself for lifetime" (Chinese proverb). Hence the inculcation of these abilities, otherwise called as Information Literacy, into the future generations is the responsibility vested with all in the field of education. Let us now discuss in detail what actually is Information Literacy.

Information Literacy is the process of knowing when and why information is required, where to find it, and how to evaluate, use and communicate it in an ethical way. It is the combination of all the skills (competencies) that are required for the effective and maximum use of information.

2 EXISTING MODELS OF INFORMATION LITERACY

In 1990 Eisenberg and Berkowitz proposed the Big Six Skills model for information literacy. The Big Six Skills are a 'general problem solving approach to library and information instruction'. The skills are process based and follow a logical order:

i) Task definition;
ii) Information seeking strategies;
iii) Location and access;
iv) Use of information;
v) Synthesis; and
vi) Evaluation

The approach of Big Six Skills is similar to the one advocated in much traditional library user education: thinking through the information search process before actually conducting the search. (Webb and Powis, 2004)

The US National Commission on Library and Information Science, 2003 defines Information Literacy as "It encompasses knowledge of one's information concerns and needs, and the ability to identify locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the information society, and is part of the basic human right of life long learning." (Webb and Powis, 2004).

The current and most cited definition for Information Literacy comes from American Library Association, which reads as

"Information Literacy is the set of skills needed to find, retrieve, analyze and use information"(American Library Association,2003)

The U.K. Standing Conference of National and University Libraries' (SCONUL) Task Force on Information Skills has proposed another model for Information Literacy. This model is popularly known as the 'Seven Pillars of Wisdom' (SCONUL, 1999). According to this the seven headline skills are;

(i) The ability to identify the need for information

(ii) The ability to distinguish ways in which the information requirement may be addressed:
- knowledge of the appropriate kinds of resources, both print and non-print
- selection of resources with 'best fit' for task at hand
- the ability to understand the issues affecting accessibility of sources

(iii) The ability to construct strategies for locating information
- to articulate information need to match against resources
- to develop a systematic method appropriate for the need
- to understand the principles of construction and generation of databases.

(iv) The ability to locate and access information:
- to develop appropriate searching techniques (e.g. use of Boolean)
- to use communication and information technologies, including terms international academic networks
- to use appropriate indexing and abstracting services, citation indexes and databases
- to use current awareness methods to keep up to date.

(v) The ability to compare and evaluate information obtained from different sources:
- Awareness of bias and authority issues
- Awareness of the peer review process of scholarly publishing
- Appropriate extraction of information matching the information need

(vi) The ability to organize, apply and communicate information to others in ways appropriate:
- To the situation

- To cite bibliographic references in project reports and theses
- To construct a personal bibliographic system
- To apply information to the problem at hand
- To communicate effectively using appropriate medium
- To understand issues of copyright and plagiarism.

(vii) The ability to synthesize and build upon existing information, contributing to the creation of new knowledge.

The information skills model proposed diagrammatically gives the gradual development of an information literate person from a novice to an expert. Fig. 1 presents the seven pillars model of information literacy.

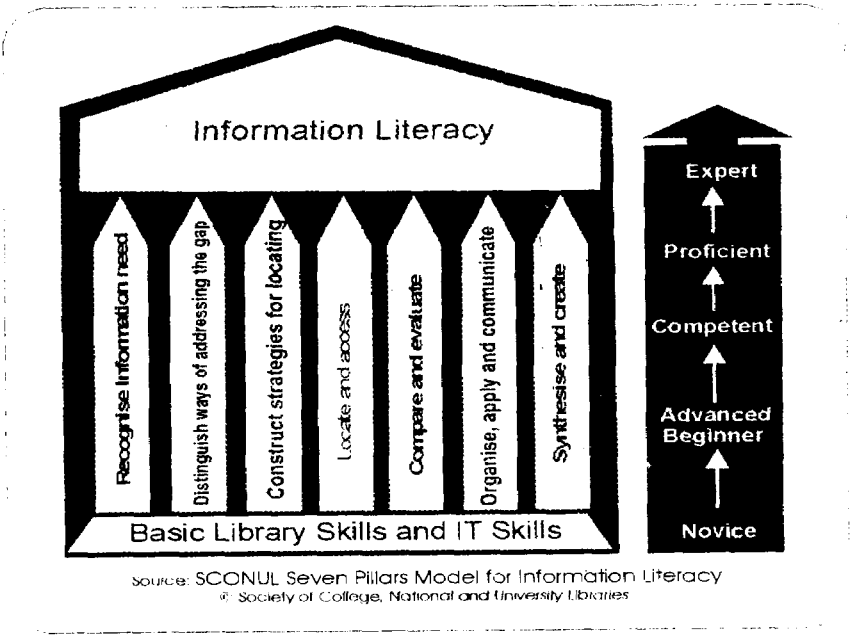


Fig. 1 Chart showing the seven Pillars model of Information literacy

From the above discussions, we can rationalize that Information Literacy is not a single skill, but a combination of certain coherent skills. An Information Literate person must have the understanding of-

(i) a need for information;

(ii) the resources available;
(iii) how to find information;
(iv) the need to evaluate search results;
(v) how to work with the exploit results;
(vi) ethics and responsibility of use;
(vii) how to communicate or share the findings, and
(viii) how to manage the findings.

Vickery and Vickery (2004) had schematically represented the social transfer of information of all kinds in the following way. Fig. 2 depicts the flow of information.

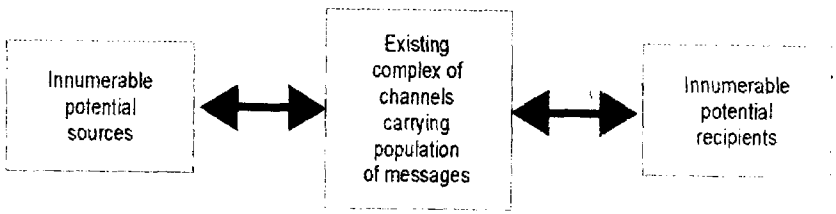


Fig. 2 Chart showing the flow of information

In this system sources and recipients seek each other. The complex of channels is the essential link between them in our society, but it is at the same time a filter through which informative communications must pass. Information literacy has a great role to play in this transfer cycle. The Potential recipient of information should be literate enough to feel the need of information, find out the sources of relevant information, gather it and analyze and later should be able to communicate the results of his research in the most ethical way. This liberal art of information literacy has to be inculcated into the students so that he can make use of it in the process of life long learning (Shapiro and Hughes, 1996).

3 ROLE OF LIBRARIANS AS PRESENTED IN INFORMATION LITERACY MODELS

Traditionally library professionals used to provide guidance to the users of the library on making use of the various bibliographic tools like catalogue, indexes and abstracts, so that a user himself can find out the required source of information. This was known as Bibliographic Instruction. The important intention behind Bibliographic Instruction was that the user would develop a capacity to find required resources by oneself later on.

Even now the scenario is the same. But the information resources available are of multifarious kinds and are in abundance. The resources range from printed documents, e-resources, WebPages, online databases of full text journals and other multimedia formats. In this age of flooding information also librarians are able to tell the users regarding the potential resources, build up suitable devices to help in searching the relevant sources and to an extent help the user in evaluating the retrieved resources. Hence the role of librarians is confined to educate the users to take advantage of the new and emerging technologies. Fig. 3 presents the role of librarian in imparting information literacy.

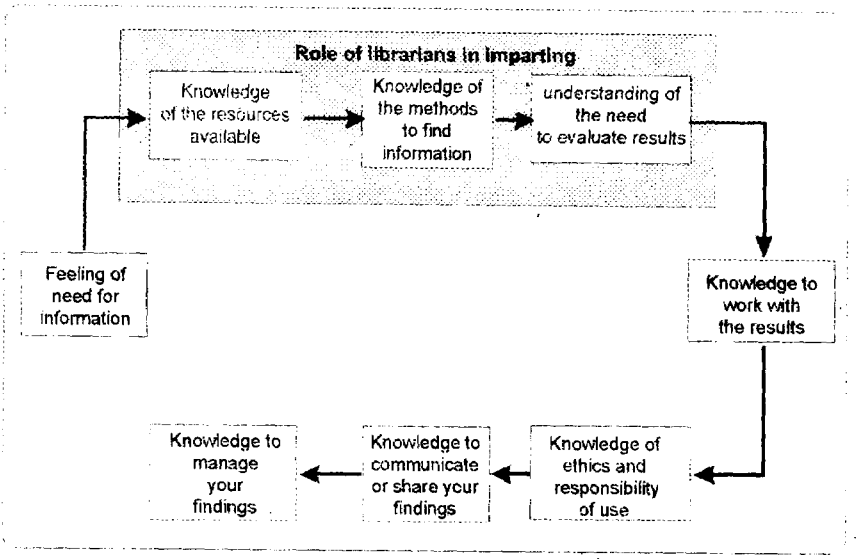


Fig.3 Role of librarians in imparting information literacy

There is another view among professional librarians that the era of bibliographic instruction is over and to day we cannot expect clients to come over to the library in order to get a product. Modern service economy in which we all must now operate, the professional librarianship will simply not survive unless we wake up and provide the users with the tailor made information products. They also fear that our role will be taken over by others who are more accommodative and ready to provide the required service. (Goodson, 1997)

The role of librarian in providing information literacy remains the same. The professionally qualified librarian should continue with the traditional support of users with such instructions, so that life long learners and researchers are produced. Librarians are able to

do this as they are trained to do so. Hence let us continue with what we were doing in this present scenario also but with the required variations.

The Information literacy has other segments. A person will approach a library when he feels the need for information. Hence aptitude towards information has to be developed through class assignments and research themes. Further, the ethical use of information and the bringing out of the information product are all to be inculcated among the future generations. These priorities cannot be made part of librarian's role. But should be integrated with the curriculum of formal education at all levels. Hence imparting information literacy is a shared responsibility with the faculty and the library professionals. Librarians are aware of the latest trends in the information scenario and the technical know how. But to teach these to the students they have to be send to the libraries through class assignments and research initiatives. Just as how librarians imparted bibliographic instruction to the students, information literacy aspects also can be taught.

The total task of information literacy instruction carries some areas which faculty should accomplish, like igniting research problems in the fresh minds of the students, teaching various documentation styles and copyright skills and making maximum use of the information they have created in the most useful way. These tasks can be completed only through their lectures or notes.

Librarians can help students in developing suitable search strategies. They will also help the students in the use of various mechanisms and software tools to accomplish search. Evaluation of the search output also can be carried out with the help of librarians.

4 INDIAN SCENARIO OF INFORMATION LITERACY

The importance of this concept has not been a subject of serious discussion in India. This is indicated by the lack of literature on the subject. However debates on information literacy going on. Every body, including educators accepts the fact that IT instruction is necessary for the future. But the importance information and search strategies in the digital scenario are not at all seriously considered so far. A White paper on Information Literacy needs to be published by the Government of India to bring about serious discussion on the subject. As the penetration of Internet has not attained to a satisfactory level in India, the subject is to be

considered with special care. Otherwise we will be adding to the awful digital divide existing in our country.

4.1 Value Added Curricula

As on now the curricula of the High schools, Higher Secondary Schools and Colleges in India do not possess Information Literacy components. But the School Boards at the national level have added assignments in their curricula. This creates the skills for the development of information seeking attitude. However, this is lacking in the statewide syllabi. Hence to have a uniform approach the syllabi of the national and state boards of education must be re-written adding Information Literacy components. This is value addition for the curricula. The possible impacts of adding Information Literacy components in curricula are the following.

(i) Value addition of general education curriculum by including information literacy concept helps in the promotion of learning with high standards.

(ii) Students would start to work in teams to gather information and to solve the problems before them, which will lead to collaborative efforts and teamwork. Hence adding information literacy into the course content makes it a learner centered experience.

(iii) Multiple times Increase in the use of information.

(iv) The negative tendencies of plagiarism and copy paste attitudes get eliminated from the forth-coming generations through this value addition.

(v) The addition of Information Literacy in the curricula enhances creativity among the students. They formulate the research question, traces out the relevant information and solve the problems before them. They will be tempted to have positive attitudes all along their life.

5 PROPOSAL OF PHASE WISE DEVELOPMENT OF INFORMATION LITERACY

"Information Literacy is common to all disciplines, to all learning environments, and to all levels of education. It forms the basis of life long learning" (ACRL, 2000)

The question as to where we should start the instruction for information literacy has to be answered first. As already stated

Information literacy is a set of related skills and its instruction can be developed in a phased manner.

(i) The first phase consists of imparting the tendency to look for information. As already stated class assignments and research themes given to high school students will help to develop a new thirst for information among the students.

(ii) The second phase consists of bibliographic instruction to carry out search for information. This should be done during the higher secondary stages of education. Gradually computer skills can also be imparted at this phase.

(iii) The third phase consists of both bibliographic instruction and computer skills, which is imparted during the graduation period. The ethics and methods of publishing the research output also can be imparted in this phase.

(iv) The post graduation period is for polishing the skills they have acquired so far. By that time each student will be able to find out the required information by himself and will develop into a life long researcher and learner.

Distance education mode is getting predominance all over the world and in India as method of learning and hence we cannot ignore the majority of students in that stream. Distance learning is primarily a self-learning method. Distance Education is 'the various forms of study at all levels which are not under continuous, immediate supervision of tutors present with their students in lecture rooms on the same premise, but which, nevertheless, benefit from the planning, guidance and tuition of a tutorial organisation' (Holmberg, 1989)

'Distance learners have special need for training in information literacy, however, for several reasons. The special circumstances include distance learner's access to an on-campus library, the essential nature of technology assisted-learning, the importance of fostering broad-based information skills, and their need to master the information technology itself (Johnstone and Krauth, 2002). Traditional library services are not sufficient enough to meet the library needs of the distance learning students who have unique challenges before them regarding information access and delivery. The methods by which information literacy training can be given to them also varies form that of regular students as they are not regular visitors of the library.

The concept of information literacy is more important to the distance education students as the modern trend is to provide

distance education through online courses. The libraries are also gradually coming up with support in the form of access to remote databases, databases of full text journals and other web resources. Libraries also arrange e-mail and chat reference services for distance learners. Hence handouts are mailed to distance learners in making use of these resources. Usually a web component imparting basic training in the use of the resources is available in the library websites.

6 CONCLUSION

The buzzword 'Information literacy' has got its importance and attention in India too. We cannot neglect the concept in the period of globalization and liberalization. If the next generations are to be competent enough, instill in them the skills to frame a research question, frame search strategies and conduct the research necessary to answer the question.

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THE ROLE OF INFORMATION LITERACY IN HIGHER EDUCATION

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ABSTRACT

Information literacy is an essential and discrete power everyone relies on information everyday. Information literacy combines skills or competencies that together make for effective use of information. In an era of lifelong learning, this effectively means that information literacy has relevance for all ages from primary school to senior citizens. Information literate people understand more than how to find information, they understand its limitations and the need to examine how they use information, and they understand how to manage and communicate information are presented in the paper.

1 INTRODUCTION

Information Literacy encompasses knowledge of one's information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the Information Society, and is part of the basic human right of life long learning. 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.

2 INFORMATION LITERACY

Information literacy defined as a part of knowledge or learning, and this is in accordance with the views of the department of

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education and skills. It comprises a series of skills or competencies that must be acquired. There are other aspects. One might say that an information literate person should have an ability to be a lifelong learner and to reflect on what they are doing. That is not part of information literacy; rather it is a necessary attitude, as you cannot develop information literacy without it. The converse view is that knowing that you may need more information to evaluate and assess is a very valuable life skill. Information Literacy is also about commitment to value, to worth and to success. The information literate person cares about the quality of the answer to what he or she is investigating and is prepared to work to guarantee that quality.

Information literacy mean slightly different things to different communities; it may also require a greater degree of skill or understanding by some communities than others. Information Literacy is relevant and an important skill to be learned and used in primary and secondary schools, in further and higher education, in business, and in leisure.

3 RESOURCES

Information may be available on paper (books, reference works, journals, magazines, newspapers, etc), digitally (on CD-ROMs, over the Internet or the World Wide Web, on DVDs, on your own computer or network, etc), through other media such as broadcast or film, or from a colleague or friend. It may or may not be conveniently close to hand and easily accessible, and quantifying your need and making a decision about the use of an information source may be tempered by the ease and speed with which an answer can be obtained.

4 BENEFITS OF INFORMATION LITERACY

Information literacy- and the resource-based learning programs that foster it-counteracts the information dependency created by traditional schooling, where students must rely on the teacher to dispense information. It requires active learning. Students take more control of their learning, and the teacher is freed from the role of omniscient expert. Yet the teacher becomes more important in the role of facilitator of interaction at the small-group or individual level. The final product of resource-based learning is usually a paper, presentation or exit performance. Regardless of

where and how information literacy skills are acquired, they are applicable in any school, play, or work situation.

Resource-based learning accommodates varied interests and ability levels. Students don't need to read exactly the same materials on the same topic when they are identifying their own approaches to a theme or topic of study. When teachers encourage students to do their own research, students take responsibility for their learning, and they retain more of the information they have gathered for themselves.

Information literate students are more effective consumers of information resources. They learn to recognize that information is packaged in a variety of ways, that it is packaged using a variety of techniques, that it serves a variety of interests, and that it contains a variety of value messages. Information literate students are more critical when they make decisions about the resources they use.

Students today face a daily explosion of information resources and the challenge of using these resources effectively and responsibly. Academic libraries worldwide have responded by providing instruction in information literacy, described as the "ability to locate, manage, critically evaluate, and use information for problem solving, research, decision making, and continued professional development".

Information literacy requires a shift in focus from teaching specific information resources to a set of critical thinking skills involving the use of information. This change is reflected within the Information Literacy Competency Standards for Higher Education. Information Literacy in an academic setting includes a variety of instructional approaches, such as course-related library instruction sessions, course-integrated projects, online tutorials, and stand-alone courses.

5 CURRENT APPROACHES

A variety of approaches and combinations of approaches have been taken, depending on the particular needs of the institution. The following sections provide some recent examples.

5.1 Online Information Literacy

With an increase in remote access to information and a demand for more rapid, anytime-anyplace sharing of information, many academic libraries have started to offer Information Literacy through the Internet. The most common online instructional tool is

the Web-based guide (e.g., pathfinders, webliographies). Another trend that has gained popularity is the information literacy tutorial, which is an interactive, Web-based program designed to introduce students to general information literacy concepts and information resources. These tutorials sometimes replace or supplement in-person library instruction sessions.

5.2 The Information Literacy Course

Some institutions offer formal information literacy courses. These courses range varies from required to elective and from distance to face-to-face. They can involve integration with a core curriculum, specific discipline or course, or general information skills. Such courses have gained popularity because they offer opportunities for in-depth instruction and reinforcement of research skills through course activities.

According to Jacobson and Mark (2000), instruction is most effective when offered in context with content-based courses and assignments. Academic libraries have incorporated meaningful learning experiences into information literacy courses in a variety of ways:

University of Oregon's LIB 101 course uses a "scenario-based approach" by building assignments around research situations familiar to undergraduate students.

Instructors of "Information Literacy" at the State University of New York College of Environmental Science and Forestry offer research assignments allowing students to address topics from their other courses

Montana State University College of Technology's Information Literacy course requires students to investigate a personal problem using information gathered throughout the course .

University of Maryland University College offers a required online course, "Information Literacy and Research Methods," in which students research a particular topic and participate in electronic discussions on timely research issues.

5.3 Information Literacy across the Curriculum

Some Universities go beyond the stand-alone information literacy course by integrating Information Literacy into the overall

curriculum. An across-the-curriculum approach is favored because it ties information literacy into all students' experiences. This model requires collaboration among the library, other academic departments, and administration to meet the common goal of teaching information literacy skills.

Specific approaches include integration of information literacy objectives into general education and first-year programs (Jacobson & Mark, 2000) and development of campus-wide information competency initiatives. In these situations, librarians, faculty and others work together to provide Information Literacy at the point of need.

6 CONCLUSION

The society has shifted from an economy based on capital goods (industrial) to an economy based on services (information), there has been a corresponding shift in what is expected from the education. Knowing how to ask the right questions may be the single most important step in learning. The process that is conducted in order to find answers to the right questions leads to the point at which information becomes knowledge. Information Literacy--the ability to access, evaluates, and uses information from a variety of sources--is central to all successful learning and by extension to all successful living. There is a clear need for discussion of information literacy in higher education outside of the library field. A more multi-disciplinary approach to information literacy research will create opportunities for more substantial, curriculum-integrated and long-lasting instructional experiences that will benefit students throughout and beyond their academic careers.

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CREATION OF KNOWLEDGE AND ITS MANAGEMENT

Abdul Majid Baba*

ABSTRACT

Knowledge is the fuel that provides the energy for corporate or organizations innovations, wealth creation, and work force productivity. Business is all about putting ideas into action, knowledge needs to be created or identified, and it need to flow among workers, workgroups, and users group and across the entire organization.

Knowledge management provides easy access to the information required by any of corporate bodies, executive or researcher. It helps them to find the answer of their question or assist them in finding. It may consist of database of literature, directory on literature or persons. It assists a researcher or executive whenever he/she requires information within the organization or outside the organization. A knowledge base can have links to the external sources too. The paper presents the concept of knowledge management, objectives and challenges of KM.

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E-LEARNING: AN OVERVIEW

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ABSTRACT

In today's age of information explosion, there is abundance of knowledge all over the world and due to advancement in computer technology worldwide, communication has become possible throughout the world at a fast pace. E-Learning is one such technology that has reduced the gap between learner and instructor through various technologies like internet, intranet, e-books, e-journals, e-zines, CD-ROMs, video tapes, audio tapes, e-mail, chat, video conferencing, teleconferencing, mobile phones, multimedia etc. Besides, as we are heading deeper into the 21st century, the concept of traditional methods of learning has also changed. Distance education has been changed to an interactive learning programme through e-learning. Also, geographical barriers and time barriers has been eliminated worldwide. In this paper, an attempt has been made to discuss various definitions of e-learning; types; need; stages and advantages.

1 INTRODUCTION

The traditional classrooms and traditional methods of teaching and learning have been replaced by the virtual classrooms, corporate classrooms etc. through which education is easily accessible globally. As the world is progressing deeper into 21st century, now, information technology has deepen its roots in providing distance education through variety of modern technologies such as Internet, Intranet, CD ROMs, Teleconferencing, Video-Audiotapes, Multimedia etc to support interaction between learner and instructor in which student learns without traveling to a traditional classroom.

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Today, new techniques based on information technology and communication technology are considered to be more powerful than the previous technologies as it uses Internet as well as other multimedia applications to provide learning internationally. Internet is one such strong medium which has changed the concept of traditional learning. It has revolutionized the method of teaching and learning by transforming distance education (correspondence courses) to an interactive learning process (either face to face or at a distance). It plays the role of a bridge between learners and educators. There has been considerable growth in the number of institutions adopting these modern and up-to-date technologies and providing such courses.

E-Learning is one such type of technology which provides on-line learning programs, degree programs or short term programs.

Learning is "a cognitive and physical process in which a person assimilates information and temporarily / permanently acquires or improve skills, knowledge, behavior / or attitudes."

2 NEED OF E-LEARNING

a) It provides contact between teacher and learner
b) Less costly for the learners
c) It is a self study for students as they can study at any hour of the day and night, slow or fast
d) Interaction with students is possible wherein students / learners can ask questions also
e) It is developed according to the demands and of the learners
f) Variety of delivery methods are used for teaching like video, audio, synchronous and asynchronous
g) Time and geographical barriers are eliminated
h) 24/7/52 allows grater accessibility to the learners
i) Financial and HR requirements gets eliminated
j) Many famous universities of the world are providing online education, online degrees etc
k) Large number of people all over the world can have an easy access to on-line learning

3 TYPES OF E-LEARNING

a) **Purely on-line learning**: It is the learning delivered by web, based on internet technology. The learners are provided more up to date information. It is more effective in reaching out to large number of people all over the world. E-Learning has emerged because of the collaborative power of web.

b) **Instructor-led Web based Learning:** It is most popular and the learning is provided through software such as Centra, Webx etc. Instructors hold the sessions on-line and learners share their views with the rest of the class. It also enables:

I. **Application Sharing** in which both instructor and learner share their views.

II. **Whiteboard Sharing** in which instructors and learners can discuss on a screen by freehand drawing viewed by the entire class.

III. **Live audio-video** played for the entire class

c) **Face to Face learning**: This is a term used to describe traditional classroom environment.

I. Self Study

II. CD ROMs

III. Video / Audio Tapes

d) **Synchronous**: It is an on-line learning in which all the participants log on at the same time and communicate with each other and the instructor maintains the control of the class.

i. **Chat**: In chatrooms, all the students can get on-line at one and the same time and can discuss or debate on a particular topic / subject.

ii. **Videoconferencing**: Both hardware and software is used to conduct a conference between various groups of people, not necessarily of the same place. They can see, hear, share their views with each other at the same time using speaker phones and even chat also. Videoconferencing can be done on Internet using PC's, Wan, LAN or through direct lines like ISDN.

iii. **Teleconferencing**: It is a two way electronic communication between two or more groups.

e) **Asynchronous:** It is a learning in which interaction between instructor and learner takes place with some time delay:

i. **E-Mail**: The quickest form of transferring the data or the quickest way of communicating with other people from one computer to another is known as e-mail.

ii. **Web Pages**: It is another form of communication. These include various courses, their syllabi, etc. on the internet which are updated regularly by the tutors.

iii. **Discussion Forums**: It means having discussion among classmates / learners on a particular topic / subject without actually being connected on the internet. The learner can post their questions on internet and get the responses for the same from other learners.

4 STAGES OF E-LEARNING

a) **Generalisation Stage**: Learner is given an introduction about the subject that he wants to study and is told about the types of instruments he will be using in learning.

b) **Focussing Stage**: Learner focuses on understanding the subject he has chosen.

c) **Application Stage**: Learner applies the previous two stages namely generalization stage and focusing stage and tries to solve the problems related to his / her subject.

d) **Consolidation Stage**: Learner consolidates all the information that he / she requires.

5 BENEFITS OF E-LEARNING

a) **24/7/52 accessibility**: Learners are not time bound, they can have an access to online learning round the clock, can download any material, can use it at any place, at any time, it doesn't require a person to be physically present there, can attend the class from anywhere in the world that has an internet facility.

b) **Cost Reduction**: It is less costly from learners point of view. They can choose whether to go for degree /

vocational or short term courses according to their budget / finances.

c) **Flexibility**: Learners can choose between self study or instructor-led study for themselves, can go according to their likes and dislikes.

d) **Better retention**: As compared to the traditional methods of learning in a classroom, learners enjoy more in on-line courses and they have better retention may be because of better delivery methods that reach them

e) Unbiased education is delivered to the learners globally as there is no discrimination between gender, race and age. Students can give their comments without hesitation.

f) Cost effective as it requires minimum technological equipments like computers with internet facility.

g) Updation of courses is regularly done

h) All types of learners brilliant as well as non-brilliant have an opportunity to study.

i) It has an encouraging interactive environment.

j) Education reach masses at all the levels

k) Improved collaboration

l) Learners are exposed to knowledge as the instructors have practical knowledge across the globe

m) As geographical barrier is eliminated, enormous course material is available online.

INFORMATION AND COMMUNICATION TECHNOLOGY IN E-EDUCATION

Abdul Momin Midda*
Sripati Mukhopadhyay**

ABSTRACT

Information and Communication Technology (ICT) has added a new dimension to education. The invention of Computer, Internet and WWW can be used in education electronically known as e-Education. The paper presents how E-education can be used for an institute of higher learning and thereby improving the quality of education and life long education for all. Section two describes current or new methods of teaching like web based and e-learning along with modern teaching aids, section three is devoted to Information Technology and Digital Library which play an important role in e-Education, section four is devoted to Library and Information Literacy in the promotion of lifelong learning which is equally important for enhancement of e-Education, section five is the conclusion mainly deals with e-Learning in Indian Scenario.

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INFORMATION LITERACY IN A GLOBAL INFORMATION SOCIETY

Taruna Joshi*

ABSTRACT

Information and its effective communication is a fundamental and vital activity within all areas of industry, commerce, government, education, and social life. Professionals working in this broad area provide an understanding of the ways in which information services can be used; and expertise in accessing the wide variety of information sources available; and require a firm grasp of the underlying theories and principles of management, information retrieval, and Information Technology.

As the world is globalizing, a global knowledge and information society is emerging, spanning all regions. Knowledge and information have become significant factors for production and services and acquire ever more importance. They affect the international division of labour, determine the competitiveness of economies and corporations, generate new growth patterns and in the process spawn new products, jobs and livelihoods. The paper presents the concept and importance of information literacy. Discusses the information literacy and global information society.

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KNOWLEDGE MANAGEMENT: A CHALLENGING ROLE FOR LIBRARIANS IN THE ICT ERA

G Sasireka*

ABSTRACT

We are in the knowledge economy where knowledge has emerged as the most crucial resource. This knowledge is not important only for business but for the society as a whole. KM is newly emerging, interdisciplinary business model that has knowledge within the framework of an organization as its focus. It is rooted in many disciplines, including business, economics, psychology, and information management. It is ultimate competitive advents for today's firm. KM is supposed to get "get the right information to the right person at the right time". The paper deals with the knowledge need and types of knowledge. Discusses the issues of the KM in libraries and information centers. Concludes the changing roles of librarians in the ICT era.

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KNOWLEDGE MANAGEMENT AND WISDOM ADMINISTRATION

P S Bodke*
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ABSTRACT

The paper discusses knowledge management and wisdom administration as Librarians profession are generally driven by a desire to provide access to information sources and believe that information sharing is a good thing. For this, librarians are professionally skilled in organizing and codifying information sources. These attributes skills of libraries are important for the practice of knowledge management, but they are not sufficient. They need to be harnessed in two directions towards specific organizational objectives that provide greater value to library users and clients and second, in the way in which library and information services are they managed. This paper discusses the concepts, importance and implementing knowledge management in organization knowledge management strategic and professional alertness.

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KNOWLEDGE MANAGEMENT: CRITICAL RESOURCE MANAGEMENT FOR ORGANIZATIONAL SUCCESS

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Ashu Shokeen**
P K Choudhary***

ABSTRACT

Information has become the fourth critical resource in open market conditions after men, money and materials. Organization world over has realized the importance of information and knowledge management. The paper gives a brief introduction about Knowledge Management (KM), its need, definition, driving forces behind knowledge management, components of KM. A five phase model of the organization knowledge creation process has been discussed, which can form an ideal model for any organization to start KM. Challenges in KM has been discussed in brief in view of the fact that KM does not have a perfect recipe. At the end with advantages which KM offers to the organization and concluding remarks.

1 INTRODUCTION

Importance of information and knowledge can be perceived from the facts that "Information has become the fourth critical resource in open market conditions after men, money and materials". People world over want to include knowledge as a fifth factor of production, after land, labour, capital and enterprise and want to include knowledge as the fifth factor. The change in perception towards information management is visible because of the fact that where a firm that is deficient in the traditional factors of production but strong in the fifth can compete with any global giant.

Organization world over has realized the importance of

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Knowledge Management (KM) and started focusing on it. KM experts argue that, for organizations to be successful and competitive, they need to continually engage in two activities

- Finding effective way to translate organization's ongoing experience into knowledge (by taxonomically structuring the knowledge and by building enterprise-wise vocabulary through keywords, which facilitates effective retrieval).
- Transforming and leveraging companies and institutions knowledge across time and space (through network technologies).

2 DRIVING FORCES BEHIND KNOWLEDGE MANAGEMENT

2.1 External Driving Forces

Most organizations operate in environment that they cannot control. Their viability and success to external forces that they must live with and respond to as best they can to survive. Over the last decades, several external driving forces have emerged. Some of these forces are

2.1.1 Globalization of Business and international competition

Products that were created within one company or country are now assembled from parts from multiple sources worldwide. Where, before there were few product alternatives, now there are many. Production and Service capabilities that were available from limited sources in advanced countries are now frequently found in countries that were formerly considered developing and incapable of sophisticated work. These development have led to cut-throat competition, where only the most effective in operations, marketing and creation of products and services.

2.1.2 Sophisticated Customers

Customers have become more demanding. They increasingly desire customized products and services that support their success and in turn are needed to serve their own customers better. Every where there are requirements for new features, better fulfillment of individual needs, higher quality and quicker response – all at an increasingly feverish pace. To survive this environment, enterprises must perform on par with or better than, their competition by improving their understanding of customer needs and capabilities.

2.1.3 Sophisticated Competitors

Competing organizations are constantly implementing innovation in products, services and practices. They also implement "discontinuous breakthroughs" by adopting new technologies and practices. To keep up, these changes require constant learning to build competitive expertise.

2.1.4 Sophisticated Suppliers

Suppliers continue to improve their capabilities and can participate in creating and supporting innovations to deliver sophisticated products. To take advantage of these opportunities, enterprises must understand new supplier capabilities and how to integrate them with internal efforts, directions and culture.

2.2 Internal Driving Forces

Within enterprises, developments of many types have created opportunities for managing knowledge better and in some cases differently.

2.2.1 Bottlenecks in enterprises effectiveness

Typically enterprise effectiveness is limited by restrictions in the flow of information. Bottlenecks have been removed through many improvements, investments in technology and logistics. Organized work tasks and work flows, improved information for decision making and increased intelligent automation of routine and simpler operation tasks help in removing these bottlenecks. .New requirements place demands on increased effectiveness and intelligent behavior. Bottlenecks have moved from visible and tangible sites to knowledge-intensive work areas that require better understanding and expertise.

2.2.2 Increased technological capabilities

New KM approaches are made possible by advances in information management and technology. Examples include groupware for collaborative work, knowledge encoding for knowledge bases, performance support systems, natural language understanding, and advanced search engines.

2.2.3 Understanding of human cognitive functions

People and their work behavior are at the center of the effective enterprise. Therefore, it is important to incorporate better professional understanding of cognitive aspects of how knowledge-understanding, mental models, and associations-affect decision making and performing knowledge-intensive work when deciding how to conduct KM.

3 KNOWLEDGE CREATION

To understand how knowledge which if defined as "justified true belief" is created, we first turn to two dimensions of knowledge – *epistemological* and *ontological*. Let us start with the *ontological dimension*. In a strict sense, knowledge is created only by individuals. An organization cannot create knowledge without individuals. The organization supports creative individuals or provides contexts for them to create knowledge. Organizational knowledge creation, therefore, should be understood as a process that "organizationally" amplifies the knowledge created by individuals and crystallizes it as apart of the knowledge network of the organization. This process takes place within an expanding "community of interaction" which crosses intra and inter-organization levels and boundaries.

As for the epistemological dimension, distinction between tacit knowledge and explicit knowledge should be taken into consideration. Tacit knowledge is personal, context-specific and therefore hard to formalize and communicate. "Explicit" or "codified" knowledge, on the other hand, refers to knowledge that is transmittable in formal, systematic language. Human beings acquire knowledge by actively creating and organizing their own experiences. Thus knowledge that can be expressed in words and numbers represents only the tip of the entire body of knowledge. As said correctly, "we can know more than we can tell".

3.1 Five-Phase Model of the Organizational Knowledge - Creation Process:

The organizational knowledge-creation process starts with the sharing of tacit knowledge, which corresponds roughly to socialization, since the rich and untapped knowledge that resides in individuals must first be amplified within the organization. In the second phase, tacit knowledge starts by, say; a self-organizing team is converted to explicit knowledge in the form of a new concept, a process similar to externalization. The created concept has to be justified in the third phase, in which the organization determines if the new concept is truly worthwhile to pursue. Receiving the go-ahead, the concepts are converted in the fourth phase into an archetype, which can take the form of a prototype in the case of "hard" product development or an operating mechanism in the case of "soft" innovations, such as a new corporate value, a novel managerial system, or an innovative organizational structure. The last phase extends the knowledge

created in say, a division to others in the division, across to other division, or even to outside constituents in what we termed cross-leveling of knowledge. These outside constituents include consumers, affiliated companies, universities and distributors, to name a few. As such a knowledge-creating company does not operate itself in closed systems but in an open system, where knowledge is constantly exchanged with the outside environment. The model, which should be interpreted as an ideal type of the process, consists of five phase:

3.1.1 The First Phase: Sharing Tacit Knowledge

It is well known fact that an organization cannot create knowledge by itself. Since tacit knowledge held by individuals is the basis of organizational knowledge creation. It seems natural to starts the process by focusing on tacit knowledge, which is the rich, untapped source of new knowledge. But tacit knowledge cannot be communicated or passed on to others easily, since it is acquired primarily through experience and not expressible in words. Thus, the sharing of tacit knowledge among multiple individuals with different backgrounds, perspectives and motivation becomes the critical step for organizational knowledge creation. Their emotions, feelings and mental models have to be shared to build mutual trust.

3.1.2 The Second Phase: Creating Concepts

The most intensive interaction between tacit and explicit knowledge occurs in the second phase. Once a shared metal model is formed in the field of interaction, the self-organizing team then articulates it through further continuous dialogue, i.e. collective reflection .The shared tacit mental model is verbalized into words and phrases, and finally crystallized into explicit concepts. In the sense, this phase corresponds to externalization.

This process of converting tacit knowledge into explicit knowledge is facilitated by the use of multiple reasoning methods, such s deduction, induction and abduction.

Concepts are created cooperatively in this phase through dialogue. Autonomy helps team members to diverge their thinking freely, with intention serving as a tool to converge their thinking into one direction. To create concepts, team members have to fundamentally rethink their existing premises. Requisite variety helps the team in this regard by providing different angles or perspectives to look at a problem. Fluctuation and chaos, either from the outside or inside, also helps members to change their

way of thinking fundamentally. Redundancy of information enables team members to understand figurative language better and to crystallize their shared mental model.

3.1.3 The Third Phase: Justifying Concepts

In our theory of organizational knowledge creation, knowledge is defined as "justified" true belief. Therefore, new concepts that individuals or the team create need to be justified somewhere in the process. Justification involves the process of determining if the newly created concepts are truly worthwhile for the organization and society. It is similar to a screening process. Individual seem to be justifying or screening information. The organization, however, must conduct this justification in a more explicit way to check if the organizational intention is still intact and to ascertain if the concepts being generated meet the needs of society at large. The most appropriate time for the organization to conduct this screening process is right after the concepts have been created.

In a knowledge-creation company, it is primarily the role of top management to formulate the justification criteria in the form of organizational intention, which is expressed in terms of strategy or vision. Middle management can also formulate the justification criteria in the form of mid-range concepts. Although the key justification criteria are set by top management, and to some extent, by middle management, this does not preclude other organizational units from having some autonomy in deciding their own sub-criteria. To avoid any misunderstanding about the company's intention, redundancy helps facilitate the justification process.

3.1.4 The Fourth Phase: Building an Archetype

In this phase, the justified concept is converted into something "tangible or concrete", namely an archetype. An archetype can be though of as a "prototype' in the case of a new product-development process. In the case of service or organizational innovation, an archetype could be though of as a "model" operating mechanism. In either case, it is built by combing newly created explicit knowledge with existing explicit knowledge. In building a prototype, for example, the explicit knowledge to be combined could take the form of technologies or components. Because justified concepts, which are explicit, reconverted into archetype, which are also explicit, this phase is akin to combination.

3.1.5 The Fifth Phase: Cross-leveling of Knowledge

Organizational knowledge creation is a never-ending process that upgrades itself continuously. It does not stop once an archetype has been developed. The new concept, which has been created, justified and modeled; moves on a new cycle of knowledge creation at a different ontological level. This interactive and spiral process, which we call "cross leveling of knowledge", takes place both intra-organizationally and inter-organizationally.

Intra-organizationally, knowledge that is made real or takes form as an archetype can trigger a new cycle of knowledge creation, expanding horizontally and vertically across the organization.

Inter-organizationally, knowledge created by the organization can mobilize knowledge of affiliated companies, customers, suppliers, competitors and others outside the company through dynamic interaction. For example, an innovation of new approach to budgetary control developed by one company could bring about changes in an affiliated company's financial control system, which, in turn, may trigger a new round of innovation. Or, a customer's reaction or feedback to a new product concept may initiate a new cycle of product development.

For this phase to function effectively, it is essential that each organizational unit have the autonomy to take the knowledge developed somewhere else and apply it freely across different levels and boundaries. Internal fluctuation, such as the frequent rotation of personnel, will facilitate knowledge transfer. So will redundancy of information and requisite variety. And intra-organizational cross-leveling, organizational intention will act as a control mechanism on whether or not knowledge should be cross-fertilized within the company.

4 ADVANTAGES OF KNOWLEDGE MANAGEMENT

A well managed KM can bring following benefit to the organization:

a) Improve efficiency
b) Improve the market position by operating more intelligent on the market;
c) Enhance the continuity of the company
d) Enhance the profitability of the company
e) Optimize the interaction between product development and marketing

f) Improve the relevant (group) competencies
g) Make professionals learn more efficiently and more effectively
h) Provide a better foundation for making decisions like make-or-buy of new knowledge and technology , alliances and merges
i) Improve communication between knowledge-workers
j) Enhance synergy between knowledge –workers
k) Ensure that knowledge-workers stay with the company
l) Make the company focus on the business and on critical company knowledge

5 CONCLUSION

Knowledge Management (KM) is a strategic process, since it is goal oriented & involves planning, implementation and outcome in the form of required knowledge for organization activities. KM systems require well balanced approach between human capital and information technological tools. Since KM is not a technological process instead it plays supportive role in KM process.

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KNOWLEDGE MANAGEMENT FRAMEWORK FOR BUSINESS INNOVATION MODEL

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ABSTRACT

Knowledge Management (KM) is processes which convert the internal and external information of an organisation into actionable knowledge .KM has emerged as a key concern for organisations. Technology is a required foundation for managing knowledge assets and bringing people together in dispersed organisations. The interaction between technology, techniques and people will allow an organisation to manage its knowledge effectively. Information has become the fourth critical resource for the post-industrial society after men, money and materials. Timely access to relevant information is possible now with the help of the Internet, the web and the competent Library and informational professionals. With the growth of the internet and related tools, there has been exponential growth of online resources. The paper presents an overview of KM, strategies of KM and proposes the business innovation model.

1 INTRODUCTION

In the knowledge of economic era, the management refers to effectively identify, acquire, develop, resolve, use, store and share knowledge, to create an approach to transforming and sharing of tacit and explicit knowledge and to raise the emergency and innovation capability by utilizing the wisdom of the teams. Since knowledge has become the driving force for social development, the attention of the society to information and knowledge is rising and people's demand for information and knowledge are increasing step by step. Knowledge Management basically

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consists of five steps: Knowledge Collection, Organisation, Data protection, Preservation, Dissemination.

New business environments are characterized not only by rapid pace of change, but also discontinuous nature of such change. The new business environment, characterized by dynamically discontinuous change, requires a re-conceptualization of knowledge management as it has been understood in information systems practice. One such conceptualization is proposed in the form of a sense-making model of knowledge management for new business environments. Application of this framework will facilitate business model innovation necessary for sustainable competitive advantage in the new business environment characterized by dynamic, discontinuous and radical pace of change.

The traditional organizational business model, driven by pre-specified plans and goals, aimed to ensure optimization and efficiencies based primarily on building consensus, convergence and compliance. Organizational information systems – as well as related performance and control systems -- were modeled on the same paradigm to enable convergence by ensuring adherence to organizational routines built into formal and informal information systems. Such routinization of organizational goals for realizing increased efficiencies was suitable for the era marked by a relatively stable and predictable business environment. However, this model is increasingly inadequate in the e-business era that is often characterized by an increasing pace of radical and unforeseen change in the business environment .The new era of dynamic and discontinuous change requires continual reassessment of organizational routines to ensure that organizational decision-making processes, as well as underlying assumptions, keep pace with the dynamically changing business environment. We define knowledge management as a business activity with two primary aspects:

- Treating the knowledge component of business activities as an explicit concern of business reflected in strategy, policy, and practice at all levels of the organization.

- Making a direct connection between an organization's intellectual assets — both explicit [recorded] and tacit [personal know-how] — and positive business results.

In practice, knowledge management often encompasses identifying and mapping intellectual assets within the organization, generating new knowledge for competitive advantage within the

organization, making vast amounts of corporate information accessible, sharing of best practices, and technology that enables all of the above — including groupware and intranets.

2 BUSINESS INNOVATION MODEL

This paper aims at analysing two categories of organizations:

- totally virtual: these are totally present in the virtual value chain;
- hybrid: traditional companies that are partially present in the virtual value chain.

A value chain is "a model that describes a series of value-adding activities connecting a company's supply side (raw materials, inbound logistics, and production processes) with its demand side (outbound logistics, marketing, and sales)." A value chain is virtual when "its value-adding steps are performed through and with information" (Rayport and Sviokla, 1995).

This research will specifically address three driving forces in their B-Web environment, which constitute the Business Innovation Model:

- the companies' business model;
- the information technology strategy, organization and architecture that supports the business model;
- the companies' relative financial performances.

Figure 1 shows the three strategic dimensions that are the driving forces for the analytical model. In the next sections, each of the driving forces will be characterized and analysed.

The statistical basis for this research is a sample of companies – virtual and hybrid – analysed through their respective B-Webs.

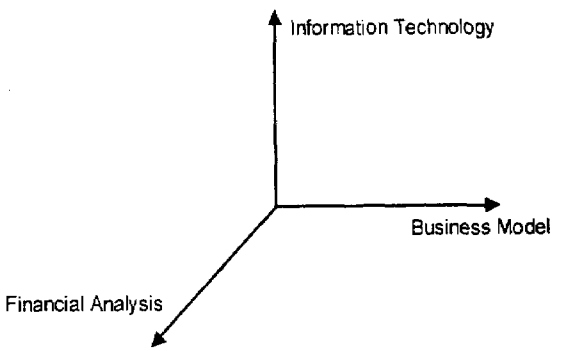


Figure 1: Three Driving forces of the Business Innovation Model

2.1 Business Model

A business model is "the totality of how a company selects its customers defines and differentiates its offerings (or response), defines the tasks it will perform itself and those it will outsource, configures its resources, goes to market, creates utility for customers and captures profits. It is the entire system for delivering utility to customers and earning a profit from that activity" (Slywotzky, 1996).

Figure 2 represents the business model analysis framework. It will be analysed through three main components: the customer, the provider, and the value experience between both entities.

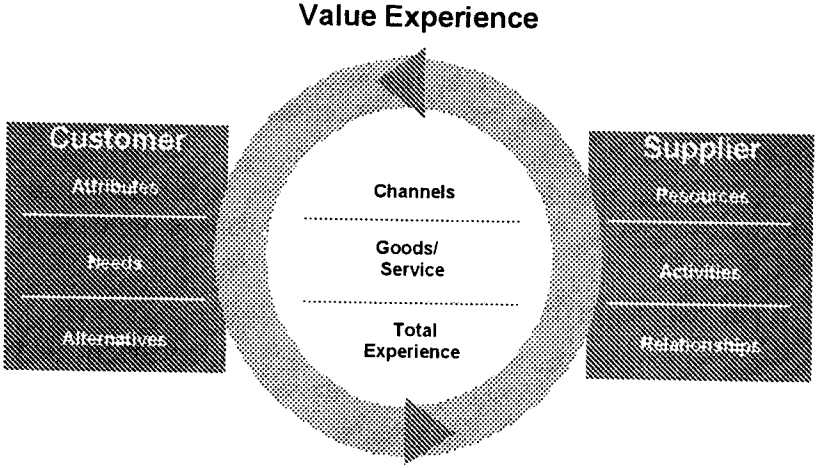


Figure 2: Business model analysis framework

On the customer side, for each company in the sample, we will evaluate their customers' attributes, needs and alternatives, facing the company's goods and services offer

2.2 Information Technology

There isn't a widely accepted definition for information technology. Therefore, IT is considered, for the purpose of this research, as the computing and telecommunications systems, their supporting infrastructure and interconnectivity used to acquire, transport, process, analyze, store, and disseminate information electronically.

This component will be analysed in three main aspects as shown in Figure 3:

- IT strategy;

- IT organization (Tatics);
- IT architecture (Operational).

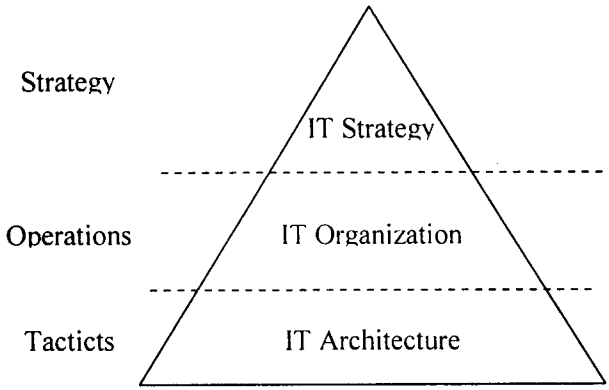


Figure 3: IT framework conceptual model

IT strategy will address the main options that a company takes when addressing its business requisites. It will analyse the conversion of IT investment and operational costs into business value. The quantitative analysis of this conversion will be done in the financial analysis component. IT strategy will also analyse the high-level process of business-IT alignment. IT organization will deal with the position of the IT functions in the company, as well as the organization of the IT department, should it exist.

IT architecture will analyse the existence and usage of applications, such as, Enterprise Resource Planning (ERP): Customer Relationship Management (CRM): Supply Chain Management (SCM): e-Business Marketplaces (e-BM), Electronic Data Interchange (EDI), Strategic Enterprise Management (SEM) and Business Intelligence Systems (BIS). Major telecommunications and communications options taken by the companies will also be analysed.

2.3 Financial Analysis

The financial analysis component will address the most quantitative issues behind the relative success or lack of success of a company. Two main areas will be analysed : company-wide performance and IT-specific performance.

The company-wide performance will use indicators, such as, Price Earnings Ratio (investment ratio) and Debt-to-Equity (solvency ratio) to measure overall company performance; Return on Assets, Return on Equity, Total Asset Turnover, Net Profit Margin

and Gross Profit Margin (performance ratios) to measure company productivity; Current Ratio and Quick Ratio (liquidity ratios) to measure the companies' liquidity situation; and Percentage of Revenue made through the Internet channel to measure the channel significance.

3 BUSINESS STRATEGIES RELATED TO KNOWLEDGE MANAGEMENT

As we explore other explanations of knowledge management – Bo Newman's Knowledge Management Forum is a good starting point — we'll detect connections with several well-known management strategies, practices, and business issues, including

a) Change management
b) Best practices
c) Risk management
d) Benchmarking

A significant element of the business community also views knowledge management as a natural extension of "business process reengineering," a fact underscored by the recent announcement that John Wiley's *Business Change and Reengineering* will become *Knowledge and Process Management* inMarch, 1997.

There is a common thread among these and many other recent business strategies: A recognition that information and knowledge are corporate assets, and that businesses need strategies, policies, and tools to manage those assets.

The need to manage knowledge seems obvious, and discussions of intellectual capital have proliferated, but few businesses have acted on that understanding. Where companies have take action — and a growing number are doing so — implementations of "knowledge management" may range from technology-driven methods of accessing, controlling, and delivering information to massive efforts to change corporate culture.

Opinions about the paths, methods, and even the objectives of knowledge management abound. Some efforts focus on enhancing creativity — creating new knowledge value — while other programs emphasize leveraging existing knowledge.

The main objective knowledge management is to promote knowledge innovation. Knowledge innovation is the core of the knowledge economy society. As bases for the education, processing, storage and distribution of knowledge and information

libraries represent an indispensable line in the knowledge innovation. Basically, the three major knowledge framework or spheres of activities are LEARNING, KEEP & CARE.

Learning aim at use of tools like e-learning, ongoing assessment, specialized training for develop and personalized instruction to develop competency. KEEP (Knowledge enhancement, extraction and process) aims at use knowledge and expertise available in house. A well built taxonomy (classifications of knowledge assets), IT enablers, practice based business offers and knowledge.

CARE (Competency augmentation with research excellence) is devised to leverage on the knowledge available in the organization to develop innovative product and services.

4 CONCLUSION

Knowledge management is a fast moving field that has been created by the collision of several other-human resources, organisational development, change management, information technology, brand and reputation management, performance measurement and valuation. Basically KM in a broad sense is a business concept ,which includes concerted, Coordinate and deliberate efforts to manage the organization's knowledge through the process of creating ,structuring, disseminating and applying it to enhance organizational performance and create value. The knowledge management strategy of an organization is predicated on shared learning Collaboration and the sharing of knowledge It is helping people learn enabling people to work more effectively to generate new ideas and turn ideas into action and developing and making available better information, process, product and services for internal and external use. The acquisition, manipulation and storage of information are all crucial part of an information system. Persons knowledgeable about the area are consulted for advice on pertinent information.

Within firms ,decision are made as to what activities the firm will be involved in, how those activities will be performed, what resources are required, which resources are allocated to different activities and ultimately, which resources are used.

The study found Knowledge Management positively affected innovation and responsiveness to knowledge positively affected performance. One of the central tenets of this paper is that

effective knowledge management enables good quality services to be extracted from other resources.

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KNOWLEDGE MANAGEMENT IN LIBRARIES: AN OVERVIEW

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ABSTRACT

Knowledge is an important source for competitive advantage. Knowledge management is management of knowledge, people in organization. Knowledge management requires linkage of information with information, information with activities and information with man-so as to realize the sharing of knowledge. The paper describes the concept of knowledge management in the context of library management. The paper also discusses the need of knowledge management and how knowledge management should be applied in library and information centers and the role of library and information professionals in knowledge management process.

1 INTRODUCTION

Mankind from the days of their evolution has recognized the importance of managing knowledge. Present society is metamorphosed into knowledge society taking it as a global phenomenon transacting at local and across the geographical boundaries and territories. Knowledge is applicable as a building block from the individuals to the groups and organizations. The concept of knowledge management, which helps to turn data into workable, actionable information, has been around for a long time. A holistic view considers knowledge to be present in ideas, judgments, talents, root causes, relationship, perspectives, and concepts. Knowledge is stored in the individual brain or encoded in organizational processes, documents, products, services, facilities and systems. Knowledge is the result of learning which provides the only sustainable competitive advantage. Knowledge

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is the next paradigm shift in computing following the evolution of data processing (1945-1965) and information management (1966-1995). Knowledge is synonymous with, focused innovation, pooled expertise, special relationships and alliances. Knowledge is value-added behavior and activities.

2 KNOWLEDGE MANAGEMENT

The level of interest in organizational knowledge enhancing programs has been building for several years. Some points which are given below that why do we need to manage Knowledge?

a) Services areas are increasingly competitive and the rate of innovation is rising.

b) Reduction in staffing create a need to replace informal knowledge with formal methods

c) Competitive pressures reduce the size of the work force that holds valuable business knowledge

d) Most of our work is information based

e) Organizations compete on the basis of knowledge

f) The need for life-long learning is an inescapable reality.

3 FUTURE OF KNOWLEDGE MANAGEMENT

KM initiatives are on an upswing as managers at all levels within all organizations face mounting pressure to work smarter and faster while wrestling with the demands of advanced technology and a shrinking work force. KM techniques and technology can help organizations to examine their processes and improve their services to users (Customers).The need of the hour, is the need to build knowledge bases that help institutions, to get a better understanding of things such as, who are the recipients of those services, who are the providers, and where is the room for improvement and cost control. This would result in a significant investment in education driven by a nationwide push among school systems to learn about best practices that can lead to improved test results. Organizations are realizing that there is a tremendous amount of information that they have been storing. What they are struggling with is how they can put this data into context so that the same could be employed to bring about tangible benefits to the organization.

4 KNOWLEDGE MANAGEMENT IN INDIA

Knowledge Management has been the most misused term in the recent times as far as the organization is concerned in India. It is only now that many organizations are realizing the importance of KM and are attempting KM in the true sense. In the early years of KM in India we saw the IT sector lapping up the credit of introducing KM in India. The knowledge management market in India is in a nascent stage and is limited to only select verticals like banking, finance, library, IT services companies. Knowledge is scattered around-it lies in the minds of employees, in filing cabinets, on hard disk drives of various servers and desktops, on websites, in e-mail boxes or just about any other data store. In this state, knowledge is accessible to a few individuals who are aware of its existence and location. But if this knowledge was in a central repository, accessible to everyone, it would certainly present the benefits.

However lack of understanding of "what is KM" and its benefits are a major inhibitor. Other factors that restrict are issues related to change management, lack of incentive for sharing information, security of the intellectual capital and high cost of software and services. The mindset of the people is gradually changing and knowledge management as a concept is slowly gaining momentum in India with select segments of the market moving towards the planning phase.

4 KNOWLEDGE MANAGEMENT IN LIBRARIES

Knowledge innovation management in library and Information Centers refers to the management as well as of the network systems constructed by related institutions and organizations. Theoretical innovation management is to enrich and enlarge the theoretical and practical research fields of library science and information science through pursuing the latest development trends in library science the world over. Technical innovation management is to manage the network systems constructed by institutions and organizations that relate to the full course of technical innovation. Organizational innovation management is to create a set of effective organizational management systems adaptable to the requirements in the electronic library era to support and strengthen knowledge management activities, by optimizing the functional departments and operation procedures of libraries. Knowledge dissemination is of equal importance as

compared to knowledge innovation. It is necessary to strengthen knowledge dissemination management in libraries as follows

(a) Uninterruptedly strengthening the creation of libraries own document resource.

(b) continuously raising the quality of libraries staff

(c) Giving full play to the special role of the expert system in Knowledge dissemination.

Libraries should also attach importance to provision of services for people to acquire knowledge and achieve maximum functions and efficiency of knowledge information. Therefore, knowledge services based on high-speed information networks should be carried out by:-

(a) Setting up virtual libraries or information centers for enterprises, governments, public organizations and scientific research institutions.

(b) Setting up digitized knowledge services which is, at present, actually a development trend of libraries.

(c) Digitizing Library and Information Centers resources.

It is difficult for an enterprise or a social organization to put sufficient manpower, material and financial resources on information gathering, organizing and developing. It is also impossible and unnecessary to spend a large amount of funds on information resources for their own use. Libraries can create virtual libraries or information centers for these organs separately according to their respective information requirements by using abundant information resources on the high-speed information networks. The electronic libraries are the technical modes and development trends of libraries in the knowledge economy era.

One of the aims of knowledge management in libraries is to promote the knowledge exchange among library staffs, strengthen innovation consciousness and abilities, arise the library staffs enthusiasm and abilities for learning, making the knowledge most efficiently applied to business activities of the library, and rebuilding the library into a learning organization. Knowledge management will inject new blood into the library culture. The main contents include: mutual trust, open exchange, studying, sharing and developing knowledge operation mechanism of libraries, enjoying the knowledge management process. In India most neglected area of library management in Human Resource Management. Now these days' libraries are facing a big problem from staff side. It is very difficult to replace staffs who retire and it

often takes time. Due to lack of proper communication and not sharing the knowledge among the library staff member, the knowledge that is useful for rendering smooth functioning of the library and to provide effective service to the user (customer) is not being tapped.

Library Information Professionals role includes the identification and analysis of available and required knowledge, its planning and control to fulfill organizational objectives and to meet the need of users and patrons. The role of traditional librarianship is changing into "cybrarianship" to include the tasks of scanning, filtering, selecting, organizing, and packaging, repackaging the flood of information. Various standards and integrated library management software are available in the market to help library professionals in acquisition, organization and dissemination of information and knowledge. Thus the role of library professional is being changed as knowledge worker from mere repositories of information to channels facilitating the process of knowledge generation, organization and dissemination.

5 CONCLUSION

In the era of digital technology, Knowledge management has become important and essential for libraries to gain greater satisfaction from their users. For any library to succeed in implementing knowledge management will require a strong leadership and vision from the top administration. Knowledge management in libraries should be focused on effective research and development of knowledge, creation of knowledge bases, exchange and sharing of knowledge between library staffs including its users, training of library staff, speeding up explicit processing of the implicit knowledge and realizing of its sharing. On basis of above discussion we can say:-

a) Knowledge is a valuable asset for any organization and this is true for library also.

b) KM is very useful but at the same time difficult for the big library and its staff. Knowledge is in the mind of the knower.

c) Wherever the human component exists the system has to be dynamic and so is the case with KM system.

d) Tacit Knowledge is difficult to handle so it is advisable to share rather than capture.

e) Knowledge sharing is a major barrier in the minds of the staff and systems that are designed should keep this in mind.

f) The success of a KM system depends on the leadership
g) The success of a KM system also depends on the entire team.

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KNOWLEDGE MANAGEMENT IN LIBRARIES: CONCEPT AND ISSUES

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ABSTRACT

Libraries are information centre established in support of the mission of their parent institution to generate knowledge, and people equipped with knowledge in order to serve the society and the well being of mankind. In the knowledge era library face challenges from the Internet as well as from the commercial companies who have entered in the field of information services. To prove their relevance and value, libraries must striver to provide right amount of information to the right clientele at the right time with the right expense of financial and human resources and in the right form. In order to meet the challenge faced by the libraries in the 21st Century the libraries have to increase their operational efficiency. Knowledge management is a management tool that can help the libraries in this regard. Knowledge management in libraries should be focused on effective research and development of knowledge, creation of knowledge bases, exchange and sharing of knowledge between library staff, training of library staff, speeding up explicit processing of the implicit knowledge and realizing of its sharing. The paper presents the concept of KM and discusses the issues related to KM in libraries.

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KNOWLEDGE MANAGEMENT IN LIBRARIES: EMERGING PERSPECTIVES AND CHALLENGES

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ABSTRACT

The knowledge management is a new concept that has appeared globally in recent years. Knowledge management is a sub-discipline of the knowledge economy that is a completely new concept and method of management. It applies for converting intellectual assets of workers/professionals and staff members in the organization into higher productive forces - competition power and value. Knowledge management requires linkage of information with information, information with activities, information with man and information with society.

The conventional functions of a library are to collect, process, disseminate, store and utilize document information to provide service for the society. In the age of knowledge economy, the library will become a treasure-house of human knowledge, participate in knowledge innovation, and become an important link in the knowledge innovation chain.

This article explores the phenomenon of knowledge management from the viewpoint of a management academic with a professional background as a librarian. This article also examines the information technology infrastructure capabilities of libraries. A significant part of that research is now focusing on the nature of the capabilities required to provide a sound basis for successfully managing knowledge processes, professionals, and knowledge work.

1 INTRODUCTION

In the knowledge economy era, the management refers to effectively identify, acquire, develop, resolve, use, store and share

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knowledge, to create an approach to transforming and sharing of tacit and explicit knowledge, and to raise the emergency and innovation capability by utilizing the wisdom of the team.

Knowledge Management (KM) is commonly defined as the process for enabling individuals within an organization to effectively share information and knowledge to save time and make better decisions. Knowledge management has become a strategic initiative in many organizations, yet during difficult economic times, special libraries, information centers, or Knowledge management is often targeted as cost savings opportunities.

When organizations lose people, they lose a considerable amount of institutional knowledge. Capturing this information becomes even more important during economic downturns; however, it also becomes more difficult. Just as the library may be affected by downsizing, the knowledge workers of organizations are also potential victims. As a result, individuals are not as willing to share what they know. They feel if their insight is shared, their personal value is decreased. These attitudes can further cripple an already fragile organization. Despite these challenges, there are methods for keeping Knowledge management a viable function within an organization, including ways to encourage knowledge sharing when individuals may not be as willing.

2 KNOWLEDGE MANAGEMENT: VALUE AND OBJECTIVES

In a library context, data represents facts or values of results, and relations between data and other relations have the capacity to represent information. Patterns of relations of data and information and other patterns have the capacity to represent knowledge. For the representation to be of any utility it must be understood, and when understood the representation is information or knowledge to the one that understands. Yet, what is the real value of information and knowledge

The value of Knowledge Management relates directly to the effectiveness with which the managed knowledge enables the members of the library to deal with today's situations and effectively envision and create their future. Without on-demand access to managed knowledge, every situation is addressed

based on what the individual or group brings to the situation with them. With on-demand access to managed knowledge, every situation is addressed with the sum total of everything anyone in the library has ever learned about a situation of a similar nature. Which approach would you perceive would make a more effective library? The Objective of Knowledge Management in Libraries is to Promote Knowledge Innovation which is the core of the knowledge economy society. As bases for collection, processing, storage and distribution of knowledge and information, libraries represent an indispensable link in the scientific system chain, an important link in the knowledge innovation. Secondly, libraries take part in scientific research process directly. The library work is a component of knowledge innovation. Thirdly, libraries must pay attention to diffusion and conversion of knowledge. They act as bridges for turning the results of knowledge innovation into realistic productive forces. Knowledge management in libraries is to promote relationship in and between libraries, between library and user, to strengthen knowledge internetworking and to quicken knowledge flow. In the knowledge economy era, libraries will carry out researches on development and application of information resources, construction of virtual libraries, protection of intellectual property rights in the electronic era etc.

One of the aims of knowledge management in libraries is to promote the knowledge exchange among library staffs, strengthen innovation consciousness and abilities, arise the library staffs' enthusiasm and abilities for learning, making the knowledge most efficiently applied to service activities of the library, and rebuilding the library into a learning organization. Therefore, the maintain of thought in realizing knowledge management of libraries is a rational design of the organizational structure and business procedures of libraries, and cultural fostering, as well as modernized information support, thus creating an environment and incentive mechanism for innovation, exchange, study and application of the knowledge.

3 KNOWLEDGE MANAGEMENT: NOTION AND CONCEPT

Knowledge is increasingly seen as a primary business asset and knowledge management as a key differentiator between organizations. Integral to the implementation of knowledge management is to understand the organization's information flows and implementing organizational learning practices which make

explicit key aspects of its knowledge base. Knowledge management is not about managing or organizing books or journals, searching the Internet for clients or arranging for the circulation of materials. However, each of these activities can in some way be part of the knowledge management spectrum and processes.

Knowledge management is about enhancing the use of organizational knowledge through sound practices of information management and organizational learning. The purpose is to deliver value to the services.

There are two foundations: utilizing and exploiting the organization's information; and second, the application of peoples' competencies, skills, talents, thoughts, ideas, intuitions, commitments, motivations, and imaginations.

The fact that a reference librarian knows something about why products or services are not utilized the way the organization desires is not of itself organizational knowledge. It becomes organizational knowledge when there are management processes in place which capture that often personal, tacit, front-line information from which others in the organization learn and make decisions. This is the meaning of knowledge management--purposeful management processes which capture often personal and contextual information that can be used for the libraries benefit.

Knowledge management practices aim to draw out the tacit knowledge people have, what they carry around with them, what they observe and learn from experience, rather than what is usually explicitly stated. In organisations that appreciate the importance of knowledge management, the organizational responsibilities of staff are not focused on the narrow confines of traditional job descriptions. Managing knowledge goes much further than capturing data and manipulating it to obtain information. The aim of knowledge management is for services to become more competitive through the capacities of their people to be more flexible and innovative. These characteristics are organization-specific, the context is critical, and they are hard to imitate--attributes which deepen the sustainability of knowledge management as a competitive advantage.

4. TACIT AND EXPLICIT KNOWLEDGE

The distinction between tacit and explicit knowledge is critical in appreciating the scope of knowledge management and how it differs from information and data management.

From Tacit to Tacit. When one individual shares tacit knowledge with another in face-to-face contact.

From Explicit to Explicit. When an individual combines discrete pieces of explicit knowledge into a new whole.

From Tacit to Explicit. This extends the organization's knowledge base by codifying experience, insight, or judgement into a form which can be reused by others.

From Explicit to Tacit. When staff begin to internalize new or shared explicit knowledge and then use it to broaden, extend, and rethink their own tacit knowledge.

The real challenges in knowledge management occur in the last two patterns of knowledge creation: going from tacit to explicit and explicit to tacit. These patterns are often easier to recognize in everyday life,

5 CHALLENGES AND REALITIES OF KNOWLEDGE MANAGEMENT

Many libraries have been affected by the recession, which has resulted in cost-cutting measures. While Knowledge management revolves around people, unfortunately people are often let go when the economy weakens. Often these measures are shortsighted and can cost the organization more money in the long-term. Each employee that leaves through layoffs or attrition takes their institutional knowledge with them.

5.1 Information Overload

Many libraries have accepted the benefits of capturing and sharing their information and knowledge. They have implemented new procedures and new systems, often involving database technology, to assist in this process. However, in many libraries the knowledge warehouse is now full.

New knowledge gathering systems are often not accompanied by clear policies as to what to capture and when or how to update it. There is no evaluation of the benefits and purpose of the information and knowledge gathered. Consequently, rather than streamlining and speeding up the search for relevant knowledge.

5.2 Other Challenges

However, while there is general acceptance of the concept of knowledge management, the knowledge-aware library is not necessarily experiencing clear commercial benefit or tangible results as a result of this acceptance. Those with a knowledge management program are faring better than those without, but there are still many challenges facing the knowledge-aware libraries.

Acceptance of the concept is but the first step. Where many organisations struggle appears to be in successful conversion from acceptance of a concept to effective implementation of a knowledge management program with clear commercial benefits.

5.3 Staff Incentives For Knowledge Sharing

Staff within a library must be given an incentive for knowledge sharing. A common complaint from busy employees is that they have no time for knowledge sharing. They see knowledge sharing as an additional task in an already hectic schedule rather than an inherent part of their business practices. Job descriptions may have to be redesigned to reflect that effective knowledge collection and use are an intrinsic part of the job.

Formal recognition of knowledge management activities may take a positive or negative form and must be tailored to the needs of a particular library. As with the effective packaging of knowledge discussed above, an effective reward system must be appropriately structured.

5.4. Failure To Marketing Knowledge

Many libraries when implementing a knowledge management program have focused on improving their internal processes and procedures. To a certain extent. for all services this will improve competitiveness by reducing expenditure, increasing turn around times, and improving productivity. However, many libraries have

missed opportunities to marketing the knowledge they are now seeking to manage.

Marketing knowledge involves looking at the what an library has in-house and considering whether changed use of technology, better information structures, new corporate culture or changed customer needs will enable that information and knowledge to be marketable. It requires examination of internal expertise and shared knowledge to discover whether it can be repackaged and sold to existing and potential customers in the form of a product or service.

6 GOVERNMENT Vs PRIVATE LIBRARIES

It would appear from most examples and case studies for knowledge management projects that the existence of the knowledge aware library is limited to the corporate rather than the government sector. Whether this is due to effective corporate marketing or a reflection of the true state of affairs is subject to debate. There is no doubt that governments are facing the same pressures as the corporate sector to make faster decisions, provide superior service, gain business insights, and improve business performance. These pressures are speeding the arrival of e-government - the delivery of information and services online through the Internet or other digital means.

7 KNOWLEDGE CAPTURE TOOLS AND TECHNIQUES

Traditionally, workers have been rewarded by what they know and how they apply that knowledge to excel in their jobs. Workers can use their knowledge to establish power and prestige within their libraries.

Knowledge management is commonly interpreted as writing everything down and storing it in a database. Not all knowledge needs to be codified. To have a successful Knowledge management program, the library should decide what knowledge is critical and determine who knows this information. There must be senior management support for Knowledge management initiatives.

Information Technology Is a Tool for Knowledge Management in Libraries. Knowledge acquisition is the starting point of knowledge

management in libraries. The application of information technologies enlarges the scope of knowledge acquisition, rises knowledge acquisition speed and reduces knowledge acquisition cost. It is impossible to accomplish such important tasks by using man's brains only in the modern society in which the knowledge changes with each passing day. It will be possible to link closely knowledge sources and knowledge workers by computer networks, thus constructing knowledge networks in libraries based on realization of single-point informatization.
The knowledge acquired must be accumulated and converged into knowledge warehouses of libraries. The priority of information technologies in the field of knowledge storage not only finds expression in quantity, but also in retrieval, sorting and security of the knowledge. Information technology is also indispensable in the application and exchange of knowledge and other fields. It functions as a source and tool for knowledge innovation.

The main information technologies relevant to knowledge management includes: Internet, Intranet and Extranet; storage architectures; database management systems; metadata; data acquisition and gathering; dissemination, messaging; push and pull; information retrieval; information resources sharing; groupware; middleware; on-line analytical processing; multidimensional analysis and data mining.

knowledge is also relevant to some basic information technologies, mainly including data processing, reporting, networked communication, document management, information search and retrieval, relational and object-oriented databases, electronic publishing, work flow and help desks.

In addition, because of the differences in architecture, usage and characteristics between information and knowledge, the storage and management of knowledge are more complicated than those of information. The storage architecture technology, database management system technology and metadata are also the key technologies in knowledge management.

8 EXPLOITATION OF TECHNOLOGY

Technology is the one of the key tools in effective knowledge management but it is not the answer in itself. The effective use of technology is not a new challenge but is one still facing most organisations. Two main problems continue to emerge.

The first issue involves the need to fully exploit the technical capabilities of available technology solutions. Libraries have invested in technology systems to assist in the capturing and processing of knowledge but have not exploited the full power of those systems. This inability to realise the full benefits of technology is fundamentally due to a lack of strategy and failure to implement the solution as part of the libraries daily operations and culture, for example lack of training, lack of communication about new features, and poor integration into working practices.

9 THE ROLE OF LIBRARIANS

The traditional skills of the library profession in information organisation and library management place us in an ideal position to play a key role in an organisation's knowledge initiatives.
However, with the potential rewards of the knowledge awareness organization comes a new range of challenges. Changes in work practices and organisational models mean that 'soft skills' are becoming essential competencies for career development in the knowledge era. Intellectual ability and technical or specialist knowledge and skills are taken by many employers. To succeed in the knowledge economy, librarians must develop not only their technical skills, such as cataloguing, resource location, and perhaps most importantly familiarity with technological systems, but also their 'soft' skills such as communication, flexibility, creativity, and adaptability.

We need to develop our expertise in budgeting, strategic management, marketing, presentation and change management. The high priority attached to soft skills results from the need to manage library people and projects effectively to participate in the business of knowledge management.

The librarians have multiple agendas in addressing library and information professionals on this topic:

- to provide a lens through which to view this emerging phenomenon
- to explain how other communities of interest are perceiving knowledge management
- to stimulate thinking and discussion about the role of library and information service

- professionals and the role of libraries in the management of knowledge

- to encourage library and information service professionals to lead by example in managing the knowledge of their libraries, colleagues, and staff to challenge readers to tell us how they are managing knowledge now

Information professionals are certainly capable of taking on these professional roles.

Knowledge management primarily deals with organizing and maintaining information and knowledge within an organization. Information professionals are best suited for these roles, and have been performing these tasks for decades. Some organizations have made this connection and rather than exploring what it might take to build up a knowledge management program.

Librarians have major advantage as Knowledge Management players, by enhancing the efficiency in the quality of the services they provide. Training should be provided to the end-users and the library staff to use any sources available in the library, with the help of sound IT support. Equally valuable will be constant two-way communication with all levels of management and regular interaction across disciplines. This will lead to a fruitful cross-fertilization of ideas and allow maximum coordination of skills and knowledge. Staff involved in the operation and maintenance of the knowledge core will need to keep themselves up-to-date with what is going on both inside and outside the organization.

9.1 Some of the other qualities of a librarian to become a knowledge manager

- Providing services to the user community
- Sharing the information and understanding the user needs
- Theoretical and practical experience in designing and implementing information systems
- Analyzing the documents, classifying and storing them for easy retrieval
- Knowledge of current advances in information systems and technologies and their application in libraries.
- Building the index, using standard vocabulary
- Ability to effectively teach end-users, individually and in groups.

10 CONCLUSIONS

The libraries are having financial difficulties; often the areas that are deemed core to the business survive. Knowledge management is often seen as benefit, but not as a strategic advantage. Libraries that prescribe to the tenets of Knowledge management have benefited from the results by keeping critical people and information in house and available to other employees. There is an investment that needs to be made to start and maintain Knowledge management programs. The results of implementing a successful Knowledge management program can far outweigh these costs. Information professionals have the necessary skills to succeed in Knowledge management and when established correctly they will have senior management support.

Continued communications of the successes of Knowledge management will help prove the programs value. Highlighting and improving these skills can help elevate the status of libraries, which may protect them during a repressed economy.

Economic environment and information environment is changing quickly today. Knowledge management has become a powerful tool for promoting innovation and realizing reengineering the various walks of life. It occupies very outstanding position in the creation of the knowledge innovation systems of a country. How for the library circles to meet the challenge of knowledge economy and to build the knowledge management systems of libraries is a subject that demands our urgent study and solution.

Knowledge management is not owned by any one group in a library, or by any one profession. But if librarians and information specialists want to be key players in the emerging knowledge management phenomenon, they need to understand the multiple perspectives of the other players. Knowledge management requires a holistic and multidisciplinary approach to management processes and an understanding of the dimensions of knowledge work. Knowledge management should be the evolution of good management practices sensibly and purposively applied.

The knowledge-aware library still faces many challenges in the successful implementation of an effective knowledge management program. The short and long-term viability of many programs, and consequently the libraries who implement them, is dependent upon the programs having clear commercial benefits and a defined strategy for creating competitive advantage. This need creates exciting opportunities for librarians. But just as there are

no easy rewards for libraries exploiting knowledge management to seek improved business opportunities, there is no automatic progression for librarians. We too face an exciting new range of challenges to enable us to fulfill new roles in the knowledge-aware library.

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KNOWLEDGE MANAGEMENT IN LIBRARIES

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ABSTRACT

The paper deals with the knowledge, types of knowledge and describes the concept, principles and need of the knowledge management. The challenges and benefits of KM are also mentioned. Finally, it explains the application of knowledge management in libraries.

1 INTRODUCTION

The term Knowledge Management (KM) has been borrowed from the corporate world and the concept has emerged in the 1980's. It has its root in several disciplines like simulation, organizational behavior, information management and behavioral sciences etc. KM is an audit of "intellectual assets" that highlights unique sources, critical functions and potential bottlenecks, which hinder knowledge flows to the point of use. It protects intellectual assets from decay, seeks opportunities to enhance decisions, services and products through adding intelligence, increasing value and providing flexibility (Sharma, 2004). Today, the transition from the industrial age to the knowledge age is accelerating. The new Information Technology (IT) has a profound impact on KM at global level. The arrival of IT and use of Internet has also changed the face of libraries. The previous role of libraries was store house of documents with closed access which changed to service institutions. So, the focus over the years in libraries has changed from collection management to knowledge management.

2 PRINCIPLES OF KNOWLEDGE MANAGEMENT

The following are the principles of KM given by Thomas H Davenport :

(i) Knowledge Management is expensive.

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(ii) Effective management of knowledge requires hybrid solutions of people and technology.

(iii) Knowledge Management is highly political.

(iv) Knowledge Management requires knowledge managers.

(v) Knowledge Management benefits more from maps than models, more from markets than from hierarchies.

(vi) Sharing and using knowledge are often unnatural acts.

(vii) Knowledge Management means improving knowledge work process.

(viii) Knowledge Management access is only the beginning.

(ix) Knowledge Management never ends.

(x) Knowledge Management requires a knowledge contract.

3 NEED FOR KNOWLEDGE MANAGEMENT

Knowledge management is the most important asset for a company/ organization/ institution because KM provides access to various aspects like experience, knowledge and expertise that create new capabilities which enable better performance, encourage innovation and enhance customer value. Today every organization needs to know their knowledge assets, how to manage and make use of these assets to get maximum benefits. Environmental pressure, technological advancements and the ability to create valuable information are responsible to adopt knowledge management. Globalization and geographical dispersion also create a demand for KM. In library and information centers, KM needs to be applied to capture information, create knowledge, improve services to users and enable users to share and learn. The need of KM is arising due to following reasons.

(i) Competitive market place

(ii) Accelerating rate of innovations that need to be assimilated at an even faster rate

(iii) Increasing mobility among employees leading to loss of knowledge

(iv) Competitive pressures leading to reduction in the size of the work force holding special and strategic knowledge

(v) Majorities of the employees have les and less time to acquire knowledge (Binawal, 2001).

4 CHALLENGES OF KNOWLEDGE MANAGEMENT

The major challenges in practicing knowledge management according to Santosus and Surmacz are:

a) To identify and disseminate quality information from a sea of information;

b) Establishing a culture that recognizes tacit knowledge and encourages employees to share it;

c) Make KM decisions based on who (people),what (knowledge) and why (business objectives) by the how (technology) for last;

d) Without a solid business case, KM is a futile exercise; and

e) Like product development, marketing and R &D, KM is a constantly evolving business practice.

5 BENEFITS OF KNOWLEDGE MANAGEMENT

KM applications could benefit in research process, curriculum development process, student and alumni services, administrative services and strategic planning in the following ways:

a) Facilitation of interdisciplinary research

b) Improved speed of curriculum revision and updating.

c) Enhanced faculty development efforts, especially for new faculty

d) Improved services for students

e) Improved service capability of faculty and staff.

f) Improved effectiveness and efficiency of administrative services

g) Improved responsiveness and communication capabilities.

h) Enhanced ability to develop up to date and market focused strategic plans

There are some benefits of KM as observed by Santosus and Surmacz are as under.

i) Foster innovation by encouraging the free flow of ideas

j) Improve customer service by streamlining response time

k) Boost revenues by getting products and services to market faster

l) Enhance employee retention rates by recognizing the value of employee's knowledge and rewarding them for it

m) Streamline operations and reduce costs by eliminating redundant or unnecessary processes

6 APPLICATION OF KNOWLEDGE MANAGEMENT IN LIBRARIES

In the present age libraries are considered as knowledge resource centres. The knowledge generated from these resource centres may be utilized by the number of peoples of different discipline. Hence, proper application of knowledge management is essential. The knowledge in libraries resides in databases, knowledge bases, text bases, and World Wide Web. The effectiveness of libraries may be measured not only on the provision of needed information to their users but also on the knowledge about related resources, skills and technologies involved in it. Knowledge Management in libraries includes the following aspects.

(i) **Knowledge Innovation Management:** It refers to the production, diffusion and transfer of knowledge as well as of the network systems constructed by related institutions and organizations. It includes three aspects, namely theoretical innovation management, technical innovation management and organizational innovation management of knowledge.

Theoretical innovation management is to enrich and enlarge the theoretical and practical research fields of library and information science through pursuing the latest development trends in library science the world over. Technical innovation management is to manage the network systems constructed by institutions and organizations. In their evolution from conventional libraries to electronic or digital libraries; libraries should make technical progress and build up technical facilities to support knowledge management. Organizational innovation management is to create a set of effective organizational management systems adaptable to the requirement in the electronic library era by optimizing the functional departments and operation procedures of libraries. In this system, it is required that leaders who take charge of knowledge management activities should undertake to

formulate the management plans and coordinate all knowledge management related activities (Sheng, 1999).

(ii) **Knowledge Dissemination Management:-** Knowledge creators do not have much time and energy to look for knowledge users. Therefore, libraries may play the part of knowledge banks, use diverse media and channels to disseminate new knowledge. In the present time, the Internet, with its mass information and extensive contents will provide people with the main approach to searching knowledge and acquiring information. But there is emerged trend like absurd, salacious, false and uncivil information resulting from seeking for commercial profits and political objectives on the net. Therefore, it is necessary to strengthen knowledge dissemination management in libraries as follows:

a) By creation and development of libraries own document and information resources.

b) By raising the quality of libraries staffs through continuous education.

c) By giving full play to the special role of the expert system in knowledge dissemination.

d) By utilization of all media to ensure security of operation of networks, prevent online criminal activities and online dissemination of inappropriate information.(Sheng, 1999).

(iii) **Knowledge Application Management:-** In the present century, libraries should also attach importance to provision of services for people to acquire knowledge and achieve maximum functions and efficiency of knowledge information. Therefore, knowledge services based on high speed information networks should be carried out by:

a) Setting up virtual libraries or information centres for government, public sector organizations, scientific research institutions and educational institutes. Libraries can do this work according to their respective information requirements by using information resources on the high-speed information networks.

b) Setting up digitized knowledge services, which is actually a development trend of libraries in the present time, creating step by step the users oriented information service systems such as information dissemination, information

search, special supply of information; quickening the creation of digitized libraries; studying the methods, means and techniques of information distribution and search with the Internet as the base and WEB technique as the core.

c) Digitizing libraries resources. The electronic libraries or digitized libraries are the technical modes and development trends of libraries in the knowledge economy era. The knowledge services of libraries in the future will start with creation of databases comprising electronic journals and e-books that can operate on high speed information networks. Great efforts should be made to transform all existing large non-electronic information resources into electronic information and integrate them into electronic libraries (Shanhong).

7 CONCLUSION

Knowledge management enhances the organizations ability and capacity. It can be used in libraries to achieve organizational goals. Of course, promises and expectations are many, but the challenges and barriers are also not few. It is upto the individual institution and libraries how to cope with the situation and adopt pragmatic strategies and implement effective and efficient knowledge management in libraries. The main objective of library is to serve as an institution to nurture a knowledge society and to provide information free of cost or with minimum cost to promote reading and knowledge. Impact of IT and explosion of information all over the world poses problems before the libraries to fulfill the needs of the users according to their demand. So, it is necessary to restructure the traditional functions of libraries and implement the principles of knowledge management. The role of library and information professionals also has to be redefined in this context.

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LEADERSHIP AND UPWARD MANAGEMENT

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ABSTRACT

Leadership is not a synonym for management; it is a high order caliber. Leaders determine where the present business is, where it is going, with broad internal and external objectives, and align the resources and skills of the organization with the opportunities and threats presented by the environment. Each business leader is a strategist who establishes the organization's objectives. Each leader has his own distinctive style to manage. One distinguishing aspect of the leader, however, is the aura of authority. Every leader is a manager but every manager is not a leader. A manager possesses a level of power commensurate with his position and responsibility. The leader's power, however, is often derived from opinion, respect and esteem as well as from the power to dominate and command. Leaders do not work in isolation. They have their organizations and the levels of management. Since the topic is "Leadership and the Upward Management", I propose to share my ideas on two aspects namely, upward management and leadership. The paper deals the leadership and upward management.

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READING HABITS: A LIFE LONG PROCESS OF LEARNING

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ABSTRACT

The paper presents the role of school libraries (especially Govt. school libraries of Delhi administration) in improving the reading habit of students has been discussed. How improved reading habits can be helpful in improving the academic results of the school is also briefed. Further, highlights the advantages of reading, focus on need of developing awareness of excellence in the young readers, throws light on importance of knowing the reading interest of students in order to regenerate the reading habit among students. Attempt has been made to cover some aspects of right kind of collection of reading materials for the students. What type of collection a school library should have for students of different age is also briefed. At the end of this paper some ways have been suggested to improve the reading habit of students of Government schools.

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ROLE AND SCOPE OF TQM IN LIBRARY AND INFORMATION SECTOR

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ABSTRACT

This paper deals with the role and increasing scope of Total Quality Management. It also points out the difference between traditional organization and TQM organization. Discusses the application, implementation and practice of TQM in Libraries for various products and services. In this context the role of newly emerging techniques viz. PCM model and Six Sigma are highlighted. Concludes that the practice of TQM by adopting various techniques will lead to continuous quality improvement along with lifelong learning and promoting literacy in this field.

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SOME ASPECTS ON KNOWLEDGE MANAGEMENT IN DIGITAL AGE

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ABSTRACT

Knowledge Management (KM) is a formal concept which describes how the organizations identify, capture, enhance and utilize the knowledge for achieving their set objectives to improve the profitability of the business, enhance the services it can provide to client and market needs as well as maintain organizational stability. The same is true in case of individuals too. "The society of today can be labelled as knowledge society. The phenomenon is global, transcending national borders and territories. Development is dependent upon the ability to capture, share, distribute and manage knowledge. This is equally applicable to individuals as well as to organizations."[1]. Knowledge organizations and individuals need to manage knowledge so that the organization or individual knows and also that it owns what it knows. Survival of humanity and organizations is much dependent on the effective management of the knowledge. In fact the concept of KM has been in existence since ages. The paper discusses Knowledge Management as a multi-disciplinary subject. The paper also highlights the essentialities for successfulness of Knowledge Management. Stress has been given on issues of Knowledge Management in Digital Age. Implications of knowledge management in library and information centres have also been highlighted. Suggestions have been made the successful organization of any knowledge based organization.

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THE ROLE OF HYBRID LIBRARIES IN LIFE LONG LEARNING

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ABSTRACT

The paper deals with the definitions of hybrid library (HL) with its features. The role of information and communication technology (ICT) helps the libraries to meet the user's demands and expectations of information resources and their timely delivery. The different types of resources like legacy resources, transition resources and digital resources etc. are discussed in detail. The E-Lib Programme of Joint Information Systems Committee (JISC), of UK for the five hybrid library projects are also given in brief. The technologies involved for the creation of hybrid libraries are given with the benefits for life long learning. The paper concluded that the future will be only the hybrid library. The library professionals should take it as a challenge and satisfy the lifelong learning users.

1 INTRODUCTION

Information plays a vital role in the lives of individuals, organizations and institutions and the libraries are the gateways to access the information. The development of information and communication technology (ICT) plays an important role in libraries and information centers. The new tools and techniques provide a lot of digital information that must be acquired and preserved in a library. The development of the Internet and the explosion of virtual information stored on the net have motivated a fast and significant change in the library and information science field. The incorporation of electronic and digital materials, with the paper based resources has become hybrid libraries (HLs). This article deals with the role of hybrid library with five projects. The technologies involved for the creation of HLs with the Indian

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scenario are discussed. The societal benefit of HL, through lifelong learning is enunciated with advantages.

2 HYBRID LIBRARY

A Hybrid Library (HL) is not just a traditional library (only containing paper-based resources) or just a virtual library (only containing e-resources), but somewhere between the two. It is a library which brings together a range of different information sources, printed and electronic, may be local and remote, in a seamless way. The information system provides the end user with a seamless interface that allows them to locate paper books and journals held locally and at neighbouring sites at the same time as being able to find relevant online resources, electronic publications and digitized material. The user is able to access variety of information from a variety of databases which are widely distributed in different formats. The HL aspires to present information resources (whether electronic or print, local or remote) to their users through a single integrated interface.

3 HYBRID INFORMATION ENVIRONMENT

The HL was designed to bring a range of technologies from different sources together in the context of a working library and also to begin to explore integrated systems and services in both the electronic and print environments. It integrates access to different types of sources like legacy, transition, new and future, using different technologies from the digital library world and across different media. The name HL is intended to reflect the transitional state of the library, which today can neither be fully print nor fully digital.

In a hybrid information environment, an appropriate range of heterogeneous information services is presented to the user in a consistent and integrated way through a single interface. It may include local and/or remote distributed services, both print and electronic. The environment will provide some or all of the following functions: discovery, location, request, delivery and use, regardless of the domain in which objects are held. Domains may include libraries, archives, museums, government. There may be dynamic configuration to reflect an individual user's interests (or a group's interests). The environment will depend on open systems and standard protocols.

4 RESOURCES FOR HYBRID LIBRARY (HL)

The different types of resources in the HL environment are:

a) **Legacy Resources**: Legacy resources include all non-digital resources, including manuscript, print, presentations, and maps, audio and video recordings. In these resources, the support of digital services is available in management roles. But the majority of the existing resources will remain outside the electronic domain for many years, despite the huge investments in digitization. These resources increase the importance of the libraries.

b) **Transition Resources:** The transition resources reduce the dependence on physical libraries and provide increased access and new methods of analysis on the other.

c) **New Digital Resources:** A wide range of digital resources like e-journals, e-books and online and CD-ROM databases in different formats (for e.g. bibliographic, full text, image, audio/video etc.) are also available.

d) **Future Resources:** The object oriented world of digital objects, packaging the information resources and the processing is used for access methods holds out the best hope for resources of the future. The HL has been designed to merge a range of technologies from different sources together to provide information and services through both the print and electronic media.

5 E-LIB PROGRAMME

The five major library projects are approaching hybrid library development in different ways, with a different set of emphases, but they have a number of significant commonalities and provide different practical models for organized accessible hybrid libraries. They are as follows:

5.1 BUILDER (Birmingham University Integrated Library Development and Electronic Resource) - proposes a HL working model in context of teaching and research work. This involves working towards seamlessly integrating access to a wide range of printed and electronic information sources, local and remote, using a web-based interface and in a way which will be universally applicable. Focusing on six inter-related modules, it is working with a number of commercial organizations, such as

library system suppliers, data providers and publishers. The modules include service integration, authentication, database (metadata) management, digitization, and organizational and cultural change.

5.2 AGORA - is a consortium-based project led by the University of East Anglia., associated with five libraries, has been started to develop a Hybrid Library Management System. It define search, locate, request and deliver in details and then build a working system. It integrates different functions through Z39.50 and delivers to the user through the AGORA web interface. The intention of the project has been to allow the user to select from a wide range on information resources - both text and multimedia, and both local and remote - search across these resources and see not just the references to the content, but obtain the content itself via document delivery, if necessary.

5.3 MALIBU (Managing the hybrid LIbrary for the Benefit of Users) -focuses on the development of institutional models for the organization and management of HL services. Through the implementation of these models, the project has examined the management implications of how these new services might be supported, and the project has aimed to create a common understanding of the concepts of the HL in a service environment. The main focus is on the user's need for effective access to digital and no-digital resources within a common information framework. It also aims to integrate tools and resources under development to create an operational service and to develop a service framework, which will allow future technical developments to be introduced.

5.4 HEADLINE (Hybrid Electronic Access and Delivery in the Library Networked Environment) – developed to provide a single interface to both print and electronic information resources and services through portal-type technology. The system provides access, via the login process, to the user's administrative details such as status, subject area and registered courses, and was able to use this information to provide a tailored and supportive environment. The system also retained feedback from the user's actions, providing a mechanism for the user profile to develop with time.

5.5 HyLiFe (Hybrid Library of the Future) - is focused on the organizational, social and educational issues rather than technology, in order to understand the operating practices of the HL. HyLiFe is a complex consortium involving different types of

university institutions spread geographically across the UK. It emphasizes on the needs of users and evaluation, at different levels, of the use and impact of the new service now being developed.

6 TECHNOLOGIES FOR THE HYBRID LIBRARY

6.1 Electronic resources

These materials have become more and more popular and have replaced other objects, like video. They can store a large amount of information as they are easy to get, cheap and sometimes they come with a printed book, so one can interact with the book's content, making it more attractive. Their cataloguing does not differ from the rest of materials that can be found in a library and its storage is easier and they occupy less space, considering all the information that is contained within.

6.2 Internet and World Wide Web (WWW)

Internet and the WWW are playing a major role in the delivery of electronic information. The hypermedia nature of the Web allows it to act as both the front end of the hybrid library's search system and also as the means of delivery of any electronic resources.

6.3 Z39.50

Z39.50 is an American search and retrieval standard that has been in use for over a decade. It provides the integrated searching over multiple databases. It allows the users to send a single search query to multiple databases and have results that are held in many different internal formats presented to the end users in a single, uniform display. Free Z39.50 clients and Web-to-Z39.50 gateways are also available.

6.4 Virtual information

These materials are generally the result of a conservation policy together with a promotional one. It is very convenient to establish a policy for the digitalization of the collection as well as agreements with other institutions due to the high economic and time cost of the process that the library can't usually assume on its own. Cataloguing depends on the type of accessibility - if the information is stored on CDs it is catalogued like other CDs and if it's online, a link can be created from the library to access this information.

6.5 Common Indexing Protocol (CIP)

CIP is based on the "forward knowledge" that allows the query to be routed forward to databases that are likely to have useful information, while ignoring databases that is known, not to have anything relevant. It allows databases to swap the summaries of information. This swapped information acts like a mesh which directs users' queries using referrals from one server to another.

7 INDIAN SCENARIO

Education aims to impart knowledge and makes good citizens. Libraries are the repositories of knowledge and form an integral part of education. Libraries have a long history, starting with the chained and closed-access libraries of earlier times to the present-day hybrid, digital and virtual libraries that uses the latest technology for provision of information through various services. Computers are being used in libraries to process, store, retrieve and disseminate information. Libraries have now metamorphosed into digital institutions. Today, libraries are surrounded by networked data that is connected to vast ocean of Internet-based services with the traditional form of libraries. Government of India has undertaken many initiatives to digitize its documented knowledge base and set up digital and hybrid libraries for better access to its diverse clientele. Many institutions and universities have started digitizing their libraries to provide information electronically with the conventional form.

Some of the institutions which are acting as hybrid library are as follows:

a) The ***Universal digital library*** has the vision "A Million Books to the Web Assembling - The World's Biggest Library on Everybody's Desktop". The basic motive of this project is to provide access to the rich repository of knowledge to everybody. The initiative was taken by a group of institutions spread across different parts of the country together with the Carnegie Melon University (USA). The nodal center for this is Indian Institute of Science (IISC) Bangalore and various other academic and research institutions are attached to it.

b) ***Nalanda***, the Digital Library initiated in 1999 at National Institute of Technology Calicut. It serves members of the campus in meeting their academic and research needs by providing timely and up-to-date information with value

added services in all the areas of Science and Technology in electronic as well as printed form.

c) The National Tuberculosis Institute, Bangalore under the initiative and support from the Health InterNetwork Project, **India - TB** has launched the digital library. It provides the relevant documents and scientific literature on programme, treatment, drug resistance and control aspects of tuberculosis.

d) ***Vidyanidhi***, a digital library, a portal of resources, tools and facilities for doctoral research in India was developed by University of Mysore. It enhances access to Indian theses and enlarges the reach and audience for Indian doctoral research works.

e) Efforts towards digitization at Central Library, Indian Institute of Technology, Kharagpur **(IIT-Kgp)** were initiated at the beginning of 1990s. They developed a searchable database on the web. Institutional Repository is running on Dspace, complies with the Open Archives Initiatives (OAI) framework allowing publications to be easily indexed by web search engines and other indexing services.

f) ***ITBHU Digital Library*** project is proposed to be implemented in the library of Information Technology division of Banaras Hindu University (ITBHU). It is sponsored by ITBHU.ORG for the benefit of students and faculty. The digital library consists of online subscription-based access to IEEE, ACM and other leading digital libraries, scientific publications and journals available on the web.

g) The Centre for Studies in Social Sciences (CSSS), Kolkata provides the Index of *'Hitesranjan Sanyal Memorial Collection (HSMC)'* via the WWW. The HSMC is a collection of rare textual and visual documentation related to the history of Bengal (in 400 microfilms and 300 colour transparencies) The index to HSMC is available via the Internet.

h) National Centre for Science Information (NCSI), Bangalore had launched an electronic current awareness bulletin *'Infowatch'* in July 1996 .It is a monthly bulletin describing the Internet-based resources and services in science and technology, can be accessed through the web as well as via email by free subscription. It is also available in printed form.

i) Health Education Library for People (HELP), Mumbai, is a privately managed site providing health-related information and managing an online catalogue of over 15000 documents. (http://www.healthlibrary.com)

j) National Institute of Science Communication And Information Resources (NISCAIR) runs an *e-journals consortium* for all CSIR laboratories as a coordinating agency. The consortium has agreement with 11 international publishers, facilitating access to 3300+ world class e-journals.

8 LIFELONG LEARNING

Lifelong learning is the process of acquiring and expanding knowledge, skills and dispositions throughout the life to foster well-being. It is a continuum of the learning process that takes place at all levels - formal, non-formal and informal - utilizing various modalities such as distance learning and conventional learning. It is the enabler which helps in creation of an inclusive society, in which every citizen is valued, can participate fully and can achieve his or her full potential. It enables the development of communities which support and enrich the lives of each member. It provides the skills and knowledge base which secures the economic prosperity of individual societies in an ever more competitive world.

It is a process of all purposeful learning activity undertaken on an ongoing basis with the aim of improving knowledge, skills and competence. It contains various forms of education and training, formal and informal, e.g. the school system from primary to tertiary level, the free adult education, informal search and training, individually, in a group setting or within the framework of social movements. Within all these forms of education and training, there is a necessity of working methods developing the ability to search for information and develop knowledge actively and independently. Everyone has to access the different types of resources from the library for their continuing education.

9 BENEFITS

According to Brophy, libraries are part of a social process "which transforms stored data into knowledge for the benefit of its users, and knowledge into stored data for the benefit of posterity, and that the benefit of having libraries can be seen in the impact they

have on individuals and societies. Every user, regardless of his or her physical location, should be able to use all library services". They act as social centers where people can meet, study in groups as well as individually and find supportive experts.

The HLs offer opportunities for individuals and social groups to engage in learning - through leisure and information publications, multimedia formats including online sources, formalized programs and /or merely to learn by serendipity through browsing either the library shelves or surfing/navigating the web. They have an important role to play in quality assurance, and again lifelong learners will need this support - especially where their study is unmediated and off-campus. Electronic resources offer new and exciting opportunities for supporting lifelong learners with the information they need. In terms of lifelong learning the hybrid libraries:

a) facilitates resource discovery beyond the physical limitations of the physical library, both locally and much more widely;

b) helps to access a variety of information through a single interface;

c) integrates new technologies to existing services, through a variety of entry points tailored to appropriate communities;

d) provides integration across domains, e.g. searching different media types, curatorial traditions etc;

e) enables cross-searching with in physical and electronic environment;

f) act as local, hospitable, trusted and well-used social institutions;

g) provides value added services , such as ILL, Document acquisition, transaction etc. provides at a faster rate;

h) provides resources in all formats like print, media, electronic and digital; and

i) provides a supportive environment like space for individual and group study and user focused staff.

10 CONCLUSION

Lifelong learning is the gaining of knowledge through the life span from a variety of sources and learning opportunities. Libraries

continue to serve as premier institutions for lifelong learning even in this digital society. They work as filters, that is, making accurate and verified information available to everybody. The HL concept has much to offer the lifelong learner through its emphasis on a managed mix of traditional and electronic services. The future of library support for higher education lifelong learners will best be secured through multi-agency provision, i.e. through a planned and managed co-operative Hybrid library. The HL projects should be encouraged to take on board the needs of lifelong learners.

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TOTAL QUALITY MANAGEMENT IN ENGINEERING COLLEGE LIBRARIES: A STUDY

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ABSTRACT

Libraries of today need to be updated with the developments in the higher education curriculum and with changes in the skills and expectations of users and they are suppose to meet ever-rising expectations for the amount of services provided and the quality. Technology logical, educational and social changes make direct impact on higher education and bring more pressure on the libraries, consequently, adoption of new technologies and integrated systems have been able to meet these challenges.

The concept of "Total Quality Management" is relatively of a recent origin. It is a customer oriented and quality focused philosophy. It involves all aspects of an organization in satisfying customer requirements. It has been defined as "a management philosophy embracing all activities through which the needs expectations of the customer, the community and the objectives of the organization are satisfied in most efficient and cost-effective way by maximizing the potential of all employees in a continuing drive for improvement". TQM is a modern management term, which focuses its attention mainly on customer and quality through a system of planning, control and continuous improvement. It aim at preventing bud quality guru's here demonstrated the importance of quality management in a wide variety of fields. Library and information services are no exception.

The paper deals with the TQM its concept need for the TQM in libraries have been highlighted. The factors like changing environment, quality conscious user information marketing, and user satisfaction were discussed. TQM in library, library and information services in J N N College of engineering is also discussed. Finally a few suggestions were recommended for improvement.

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