Impact of Digital Technology on Academic Libraries of India: Problems and Prospects

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ABSTRACT

The paper discusses the impact of digital technology and role of libraries in the age of knowledge and information societies. It also highlights the problems faced by the academic libraries in India in implementation of digital technology. As this paper is based on secondary resources, the findings shows that notable number of digital resources were found in the academic libraries of different states of India such as Tamil Nadu, Karnataka, Rajasthan, Kerala and Uttar Pradesh though still the collections need to be increased in numbers, in this regard this paper concludes with some specific suggestions to increase digital resources in Academic Libraries of India.

Keywords: Digital Technology, Information and Communication Technology (ICT), E-resources.

1. INTRODUCTION

Digital Technologies are used for accessing, processing, gathering, manipulating and presenting or communicating information. The application of modern Digital Technology in the academic libraries is providing the library professional with new opportunities to improve their sources and services. Information is now published both electronically and by print making it accessible to users according to their demands. It is important to access the Digital technology applications in library and information centres in the context of changing user needs. The world is undergoing a transition from paper economy to digital economy. The concept of library automation in India is not new, but the situation is still not levelled with developed nations.

2. OBJECTIVE

The prime objective of the study is to explore the status of implementation of digital technology among academic libraries of different states of India. More specifically the objectives of the study are:-

- To have a look for the impact of digital technology on Academic Libraries
- Identify specific problems related to implementation of digital technology in academic libraries of India
- Give specific suggestions to overcome the problems related in this field

3. REVIEW OF LITERATURE

A huge amount of literature is available on the use of digital technology in academic libraries of India. Here is a brief overview of the most relevant studies to the subject. This section includes studies related to the application of Digital technologies in Academic libraries of different states of India.

Dhanavandan, Esmail and Mani (2008) observe the awareness of Information Communication Tools among the library professionals in Tamil Nadu. The study reveals that the use of communication tools by the female respondents is comparatively higher than the male respondents and majority have view that ICT is the most helpful media for professionals.

Salma Khan and J. Dominic (2009) analyze the patterns of internet use, the internet skills of professionals, the perceived impact of the internet on their academic efficiency and problems faced by them in using the Internet among Engineering colleges of Moradabad, Uttar Pradesh. The study reveals that the use of conventional document is decreasing and dependency on internet is increasing. It expedite the research process and also improve the professional competency.

Sampath Kumar and Biradar (2010) observe the use of information communication technology in 31 college libraries in Karnataka, India by analyzing the ICT infrastructure, status of library automation, barriers to implementation of library automation and librarians' attitudes towards the use of ICT. The survey carried out using questionnaire, observation and informal interview with selected college librarians show that lack of budget, lack of manpower, lack of skilled staff and lack of training are the main constraints for not automating library activities. Even though library professionals have shown a positive attitude towards the use of ICT applications and library automation, majority
expressed the need for appropriate training to make use of ICT tools.

Mohamed Haneefa and Shukoor (2010) observe the Information and Communication Technology (ICT) literacy among the library professionals of Calicut University. The study includes only the library professionals in the central library and departmental libraries of Calicut University. A structured questionnaire was used to collect data. The study reveals that the Professional Assistants are more ICT proficient in ICT skills than the Junior Librarians and Assistant Librarians. The use of ICT-based resources and services, library automation software, and general purpose application software is high among the Junior professionals than the senior library staff. The use of digital library and institutional repository software is very low among the library professionals. Majority of the professionals had confidence in routine ICT and Internet tasks, and need training or orientation in library automation, digital library and institutional repository software.

Dhanavandan, Esmail and Nagarajan (2011) analyse the ICT infrastructure facilities with reference to self-financing engineering college libraries in Tamil Nadu. The study traces out the status of electronic resources in terms of topology of library network, electronic access points, electronic database, e-journals, and electronic resources in the libraries. The study reveals that most of the engineering colleges in Tamil Nadu use the library application software in their libraries. The establishment of ICT infrastructure facilities in the self financing college libraries in Tamil Nadu can improve the efficiency of information support, the information retrieval and quality of education also.

The survey of literature has given an insight into the research carried out in the related fields of study. Further, it has helped to know the tools and methods relevant for the study. Majority of the studies are conducted with the help of questionnaire survey and personal interview. It is clear that technological change clearly affects library staff and there is a need to develop guidelines and policies to train the professionals in providing frontline services in academic libraries of India.

4. METHODOLOGY
An attempt has been made in this study to analyze the secondary data available in the field of study and observe the problems and barriers in the implementation of digital technology in academic libraries of different states of India.

5. IMPACT OF DIGITAL TECHNOLOGY ON ACADEMIC LIBRARIES
Library activities and services have undergone rapid transformations from conventional methods after the introduction of digital technologies as –

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Library activities and Services</th>
<th>Conventional Methods</th>
<th>Digital Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Generate/ originate Information</td>
<td>Writing/ Typing</td>
<td>Electronic Publishing, Magnetic Storage, E-journals, Tele-text, Computer Disk, ROM</td>
</tr>
<tr>
<td>2.</td>
<td>Preserve/ Store Information</td>
<td>Manuscript, Paper-Print Media</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Retrieval of Information</td>
<td>Catalogues, Indexes</td>
<td>Database Management System, Information Retrieval off-line, online</td>
</tr>
<tr>
<td>6.</td>
<td>Destroy/ Remove Information</td>
<td>Physical Weeding</td>
<td>Magnetic Erasers, Optical Erasers, re-use the medium</td>
</tr>
</tbody>
</table>

6. BARRIERS IN IMPLEMENTATION OF DIGITAL TECHNOLOGY IN ACADEMIC LIBRARIES OF INDIA
The significant obstacles and the factors that are affecting the use of Digital technology in Academic libraries of India are –

- Inadequate Finance
- Lack of effective planning for Digital technology activities
- Inadequate Management support
7. SUGGESTIONS TO OVERCOME THE PROBLEM

- The government should take steps for providing library facilities with well-equipped modern technology.
- The administration should invest more on the acquisition of computers and other new electronic resources and computerized tools.
- The concerned authorities should not grant affiliations and permissions to the academic institutes until and unless they can keep the requisite library norms.
- Information technology may be facilitated for making network among the libraries.
- A committee consisting of Library authority, staffs and user community may be constituted to initiate joint efforts introducing computerized service in the library.
- Availability of information technology facilities (like internet) should be considered and encouraged.
- The management should imbibe the culture of manpower development programme on Digital technology regularly for workforce.
- E-resources training/awareness programme may be organized from time to time by the concerned authority.
- The emphasis should be given to the accessibility and subscription of electronic information resources, locally relevant digitized information resources, as well as free web based information items by libraries.
- The management committee should take steps to take help/assistance from the UGC for the successful implementation of modern technology.
- The library management should ensure that the amount charged for the use of digital resources in the library is cheaper than others cybercafe so as to encourage library users in using the digital technology resources within the library premises.
- Earmarked grants for the college libraries should be given.
- Libraries must be encouraged to renovate themselves in the modern trends.
- Adequate funds may be provided to libraries for their development and functioning and it should be utilized properly.
- To overcome the problem of financial crisis in the cost of Digital resources, Librarians or Information managers should form consortia in order to share the cost of provision and access to library and information resources.
- The management should engage in collaboration effort with foreign donors who could assist the staff and students in offering a scholarship programme for academic research that can be of benefit to all.
- There should be provision for alternative power supply by having a dedicated generating plant for the library use to offset the adverse effects of constant power. This is especially important because of the total dependence of the IT use on electric power supply.
- Users should be trained for use of computer to information retrieval, use of internet/worldwide web and IT applications.
- Training on internet search skill should be given to the to library users to enable them make adequate use of the digital technology.
- More computer terminals or work station should be created to enable users have access to the internet.
- The parent body must have to co-operate with the library authorities and have to give them some specific fund for building and increasing digital information reserves.
• The Practical digital resource management course should be integrated in the LIS curriculum so that the upcoming library professionals gain some practical knowledge to handle and manage digital resources.
• Different library associations such as ILA, IASLIC etc have to come forward and should organize seminars, workshops etc. to create awareness among librarians about current development in technology.
• International cooperation is a must in the library field. Without that libraries will be far behind from the modern services and facilities.
• Librarians need to proactive in making e-collections decisions.
• The libraries must have to develop a collection development policy for digital resources.
• There should be developing specific criteria for adding and canceling e-resources.

In India, lots of efforts had been made to set up networks at local, regional and national level to deploy digital technologies and to build electronic information sources. These networks especially INFLIBNET and DELNET are engaged in compiling union catalogs, creating various databases of experts, providing training to library staff, providing Inter Library Loan, online facilities, reference service, assistance in retrospective conversion etc.

To overcome the problem of financial constraint librarians have formed consortia to subscribe all the required journals and databases like FORSA (Forum for Resource Sharing in Astronomy), NISCAIR (National Institutes of Science Communication & Information Resources). To solve the problem of university and college libraries UGC launched UGC-INFONET that provides high speed Internet connections so as to have electronic access to professional literature including research journals, abstracts, review publications and databases from all areas in science, technology, social sciences and humanities.

8. CONCLUSION
In India, the digital movement is yet to take off. The implementation of digital technology in libraries is not receiving adequate support from their parent body. Some of the academic libraries in India even do not have computer facilities. The print media is still a major source of information in Indian academic libraries. Sooner or later the management authorities would realize the need of the vital change and start tuning to the present day requirements.

References

AUTHORS

Archana Saxena  BSc, BLISc., MLISc.,MPhil.. Presently working as Assistant Librarian in Sahara Arts & Management Academy, Lucknow. She has more than 12 years of experience in Library and Information Science. Various papers are published in National and International conferences and seminars. She is member of UPLA (Uttar Pradesh Library Association).

Dr. T. N. Dubey has more than 34 years of experience in Library and Information Science. Currently, he is University Librarian at Uttar Pradesh Rajarshi Tandon Open University, Allahabad. Dr. Dubey has rich & diverse experience in Library & Information. He has dual Ph.D, first in Library & Information Science and other in Ancient Indian History. Dr. Dubey is member in many learned Societies/Bodies viz., Indian Library Association, IASLC, Uttar Pradesh Library Association, Ex. Secretary-UP College Library Association and many more. Besides this he is member in Academic Council of UPRTOU, Allahabad, member of Board of Studies, Department of Library & Information Science, M.J.P. Ruhelkhand University, Bareilly. He is also approved academic counselor of BLIS and MLIS Programme sponsored by both IGNOU and UPRTOU. He has authored three books and written several publications in International/ National Journals & Conferences. He supervised many candidates of Ph.D & M.Phil. He is also in advisory board and reviewer of various International & National Journals.