

EXAMINING THE IMPACT OF DIGITAL TECHNOLOGIES ON MODERN ACADEMIC LIBRARIES

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Abstracts

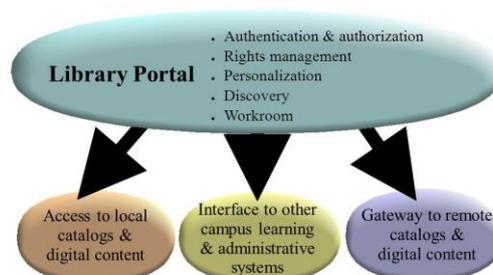
In the 21st century, academic libraries have a new role in sharing information. Libraries are not piles of books anymore; the general library environment has been changed from analogue to digital. Library automation systems have helped libraries to provide easy access to their collections through the use of computerized library catalogues (On-line Public Access Catalog – OPAC) which more recently led to digital libraries.

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

Introduction

Libraries are an integral part of the knowledge society that surrounds it. Academic librarians need to recognize the changes that have already taken place in the libraries, and to be aware of the ways in which broader societal change are affecting libraries. Change is the law of nature. Library profession is no exception in this regard. The library is first and foremost a service. Its primary mission is to support the learning, teaching and research activity of its parent institution by providing access to information resources. Librarian system is one effective way in which these aims can be achieved by ensuring that the library remains user centered. Librarian provides one interface between the users' needs and the library.

21st Century Academic Library Technology



Today's academic library professionals are not the mere custodians of documents but they are the information personnel.

- We as library professionals cannot ignore the changing library environment, and need to adopt ourselves to the digital library era. Knowledge of information technology is the key in this facet.
- We know that all the library professionals are not computer specialists and it is also not possible for library professionals to go back to the library schools in order to learn about the latest developments in the electronic information environment.

Short-term courses, refresher courses, workshops, seminars etc would help the existing library professionals to do justice with the extremely demanding and changing library profession. As a professional of the digital library era one should have a sound knowledge of internet, and the information resources that are available on internet e.g. e-books, e-journals, online libraries, full text databases etc. Digital library era has already begun and we the library professionals have to express our identity by acquiring the requisite knowledge and skills and providing the right information to the user at the right time, which in fact has been our motto from ever since. Library professionals must strive; struggle for knowledge about new technologies that will be needed to provide responsive library information services to the users in the 21st century.

Academic Libraries in Digital Era

Academic Libraries are an important part of the National Educational System as long as they serve as information centers fulfilling basic library users needs; efficiency, effectiveness, and utility. Evaluation plays a key role in the improvement of information services. Digital era has produced many changes in the society such as expansion of the served community; products and services; the need to break the space-time barrier in communication and further expectations from library users for high-quality and user-friendly online services. Therefore, the library manager has to impartially evaluate qualitative and quantitative value of the library resources and plan services for better functionality in order of making the invisible to be visible.

Academic libraries have gradually been completed many criteria for their development of better products and services which are the follows:

- **Effectiveness:** To well operate the digital library system.
- **Efficiency:** At what cost does it operate? (costs can be either financial, temporal or related to effort)
- **Usability:** Services & products utilization
- **Accessibility:** Characteristics of the digital system (technology performance, speed, time, error rate)
- **Quality:** Qualitative material
- **User's satisfaction:** Users interact with the digital library system

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 .

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.

- Andson (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.
- John (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.

- Smitha (2010) observe the use of information communication technology in 31 college libraries in 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.

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

Sl.no	Library activities and Services	Conventional Methods	Digital Technology
1	Disseminate/ Communicate Information	Lists, Bibliographies, Abstracts, Hardcopies	Electronic Mail, Electronic Document Delivery, Computer Conferencing, Telefacsimile, View Data
2	Processing of Information	Classification, Cataloguing, Indexing	Electronic Data Processing, Artificial Intelligence/ Expert Systems
3	Destroy/ Remove Information	Physical Weeding	Magnetic Erasers, Optical Erasers, reuse the medium
4	Generate/ originate Information	Writing/ Typing	Word Processing, Text editing, Character Recognition, Voice Recognition
5	Preserve/ Store Information	Manuscript, Paper-Print Media	Electronic Publishing, Magnetic Storage, , Videotext, Tele-text, Computer Disk, ROM

Challenges for Academic libraries in Digital Era

The following are the Challenges for Academic libraries in Digital Era 1. Making services engaging to researchers and students: Google is not the answer to everything. As a result, the librarian fully absorbs the needs and wants of students and researchers to make a substantial and engaging difference in their work moving forward.

1. Handling research data management tools: Libraries should be the place on campus for data curation and research management. Librarians need the support of their faculty and

administrators to make this happen, but librarians also have to keep themselves well-versed in the advancements of data management so research doesn't become stale.

2. Role development: Open Access has required librarians to become knowledgeable in a growing number of subjects on an astounding scale. While no institution is going to process information at the pace of a computer, it might feel that way sometimes. Adding budgeting and resource constraints can contribute to this problem as well.

3. Licensing: Although every academic research facility is different, College and 1 which means that digital licensing agreements should become more sustainable and easier to understand.

4. Subject-matter expertise: With so much information pouring into libraries at a fast pace, academic institutions need to take an active role the management of libraries. There have already been great strides taken on a national scale, such as National digital Library of India.

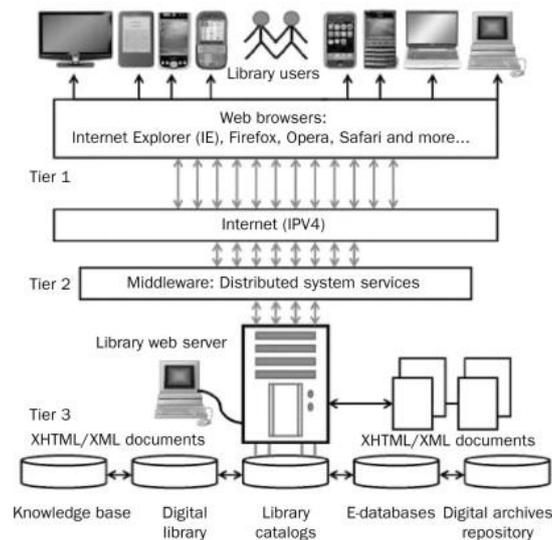
5. Becoming familiar with a wide range of digital content: By clearly seeing what kinds of articles, published works and e-books are being used the most by students and researchers, librarians can fully digest what types of content they need to become familiar with in a global, digital world while still providing high quality sources.

With academic libraries, the challenges of role development, digital licensing and research tools are shaping the way that librarians provide quality content to students and researchers

Digital future of the academic libraries

University and college libraries will be increasingly expected to open their resources to visiting students and scholars, in the process increasing the need for sensitivity to cultural differences. Libraries will need to respond to the growing interest in interdisciplinary program by improving communication with participants and becoming flexible in supporting program resource needs. As college campuses become more “green,” libraries will also have to infuse sustainability into their planning and operation.

As libraries shift their centers of gravity from storage and physical collections in central spaces, they must establish settings for a mix of social and academic activity that encourage and support “high energy” learning by providing spaces for communities of learning to happen. Librarians must continually assess their current services against the new breed of student they will serve, re- examining how and what they teach students about using libraries while providing a variety of learning experiences through various media.



Future Libraries

(a). E Literacy

E-Learning is a catch-all term that covers a wide range of instructional material that can be delivered on CD-ROM or DVD, over a local area network (LAN), or on the Internet. It includes Computer-Based Training (CBT), Web-Based Training (WBT), Electronic Performance Support Systems (EPSS), distance or online learning and online tutorials. The major advantage to students is its easy access. So, providing access to online e-journals and e-books through networks will enhance the self-learning knowledge.

(b). open Access

OA will certainly change the situation for libraries and their users. Whether it makes them more or less valuable to their institutions and users depends on whether libraries take action to make themselves more useful. There was a general feeling that borders are blurring between teaching and learning, and the traditional role of the library as an institution is also blurring. The focus will instead shift to the information professional. As one participant put it: 'the information professional is the library of the future.'

(c). Library 3.0

The new Web 3.0 is known as the web of data and as the Semantic Web. It is personalization-driven and binds collective intelligence. The inspirations of Web 3.0 technologies include personalized learning, search using natural language, filter ad personalizes search results, intelligent agent, interact with more types of web content and provide learning from multiple resources. In education, Semantic Web will impact the knowledge construction, personal

learning network maintenance and personal educational administration. Semantic Web brings impact to online instructors and students, as it changes the teaching and learning environment.

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 Hardware
- Lack of Training facility
- Delay in retrospective conversion of documents
- Delay in barcoding of documents
- Lack of policy for periodical evaluation and time bound completion of Digital technology projects
- Lack of upgradation of basic infrastructure
- Erratic power supply
- Lack of awareness/hesitation in users of Digital technology
- Low priority to Digital technology
- Lack of control over Library Staff
- Lack of Motivation to staff

Conclusion

Today, academic libraries are struggling to keep their place as the major source of inquiry in the face of emerging digital technology. Digital technology has revolutionized not only the way information is packaged, processed, stored, and disseminated, but also how users seek and access information. Academic libraries no longer restrict themselves to print services such as collection development, cataloguing and classification, circulation and reference services, current awareness, selective dissemination, and other bibliographic service, but have extended their effort to interdisciplinary concepts and computer software and hardware and telecommunication engineering and technology.

“Academic Libraries presently are faced with not only the decision on what books and journals to acquire to satisfy faculty and students but also on how to remain relevant in the digital era, mindful of low budgets and resentment on the part of institution administrators. There is also the issue of library users opting for alternate, more convenient and “qualitative” source of information (the internet).

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