Journal of Advances in Science and Technology
Vol. 20, Issue No. 1, March-2023, ISSN 2230-9659

Challenges and Opportunities in the Digital Age: A Case Study of Private University Libraries in Bangalore

Manisha R Gholap[1]*, Dr. Sontakke Dnyandev Manik[2]

[1] Research Scholar, Department of Library Science, University of Technology, Jaipur, Rajasthan, India

Email: gholapmanisha@rediffmail.com

[2] Professor, Department of Library Science, University of Technology, Jaipur, Rajasthan, India

Abstract - The digitalization of library materials is now a widespread worldwide trend and a novel method for managing library collections, particularly in academic libraries. The paper explores many factors driving digitalization and provides insights into the process and criteria for selecting digitalization initiatives. Additionally, it addresses the many concerns and obstacles associated with the digitization process in academic libraries, including legal considerations and financial matters. This research investigates the evolving aspects of electronic resources and existing procedures related to their acquisition, selection, procurement methods, promotion, development policy, challenges, and future strategies. Additionally, it emphasizes the techniques used to obtain resources and the strategy for preservation. It also acknowledges the obstacles that hinder the digitization of academic libraries. Lastly, it concludes by stating that despite the challenges, in order to execute digitalization in a regulated and controllable way, information workers and librarians need to have both the practical abilities and the vision.

Keywords: challenges, opportunities, digital age, private library, etc.

----------X----------

4. INTRODUCTION

The development of technology and the emergence of the Internet have presented several possibilities and difficulties for contemporary libraries, It ultimately led to major improvements in data management, storage, organization, and user access. With the increasing shift of libraries towards digital platforms, With the increased accessibility of remote library holdings, electronic information resources are becoming more attractive and practical. Using the most cutting-edge methods and resources, Every library strives to connect its users with information in the most efficient and comprehensive way possible. The development of ICT has altered not just the resources, operations, and services of academic libraries, but also the expectations of its patrons. Currently, consumers tend to rely on internet browsing to fulfill their information requirements instead of physically going to the library. Academic libraries are unable to meet the evolving electronic requirements of customers using their conventional assortment of printed items. The appeal of users to libraries is mostly driven by the provision of high-quality services, particularly in academic libraries where users rely heavily on highly specialized, immediate, and user-friendly information.

In order to complement their print collections, academic libraries should develop efficient means of producing electronic resources. Libraries may encounter many obstacles while trying to create and oversee electronic resources because of the vast differences between them and traditional print products. The conversion of printed content into a digital format is a recent strategy used to manage information resources. This approach relies on information and communication technology to enable individuals to access information, even from distant locations. When libraries transfer print content such as books, magazines, and manuscripts into digital format, they face several hurdles. These issues include budgetary constraints, the need for well-trained personnel, and the necessary technology to transition into the digital era. Academic institutions highly value institutional materials such as manuscripts, special monographs, research articles, and photographs.

1.1 E-Resources

- The decreasing funding allocated for the procurement of library materials and the pursuit of cooperation, partnerships, and resource sharing.
- The growing costs of preserving analogue resources are one reason why archives and documents have been digitalized.

- Long-term preservation, convenient and distant user access, and universal accessibility to information instead of limited to a certain set of users. Multiple users may simultaneously view the same information without any obstruction.

- Furthermore, People may now access and use library materials digitally, eliminating the need to physically visit libraries that have physical copies, therefore eliminating the problem of geographical distance.

- This implies that the digital library would be always accessible for the purpose of consulting contents. The materials submitted on the website remain accessible for consultation by individuals, until they are deliberately deleted by the website administrator.

- It is crucial to conserve library resources, particularly ancient manuscripts, picture photographs, theses, and musical recordings, which are at risk of being lost in the future. These items have significant historical and cultural value and should be safeguarded for future generations.

- To enable and promote novel methods of entry and use. Improved and expanded access to a specified inventory of research resources.

- Establishment of a centralized repository for documents from various organizations pertaining to a certain topic.

- Enhancing democratic principles by increasing the accessibility of public documents and improving search and retrieval capabilities for library items.

- To provide the institution with opportunity to enhance its technological infrastructure and improve the skills of its workforce.

1.2 Process of Digitization of Library Resources

When undertaking digitalization initiatives in poor nations like India, academic libraries must take into account certain criteria. These elements include the following stages:

Objectives and green light As a statement of intent, it lays out the ground rules for the project and how upper management should approach it. The project's execution will be guided by this policy, which will also function as a reference document. Project goals and objectives should be included in the policy, with a focus on aspects like user access, resource interests, and the benefits to institutions and users from the collection as a whole. You may want to get in touch with other groups that have digitized comparable collections before so you can hear about their successes and failures.

Prior to the implementation of the digitization project, the policy must have approval from the relevant authorities. For example, a university library must get clearance from the university administration and other financial organizations before to initiating any digitalization project.

Strategic planning, financial allocation, and ongoing evaluation Planning is the first and vital aspect to establish for every endeavor. The digitization effort should include a planning group responsible for developing the strategy and budget. A variety of libraries, museums, academic/professional groups, historical societies, and archives may be able to work together under a national or regional digitization strategy that is well-executed.

When creating budgets for digitization projects, it is important to provide funds for the following categories: Compensation for employees, including salaries, wages, and benefits; Training programs for staff members; Equipment and supply acquisition; fees for services, contracts, and attorneys; Direct and indirect costs; Maintenance expenditures; Licenses; and Communication expenditures. Keeping tabs on the project's progress at every stage is the next consideration. It is crucial to pay close attention to even the smallest details. Individuals responsible for project oversight should possess comprehensive understanding of all project phases. Another factor to consider while monitoring a project is the source of funding and the available money for the project.

Procurement of Technology The project strategy should clearly outline the necessary technological requirements, including both hardware and software components.

Employee Awareness Training Many individuals tend to oppose change due to their apprehension of the unfamiliar. The library workers may have concerns that the project's success may have a negative impact on their employment. Each of these groups has valid justifications for their resistance. The library administration has the duty to educate them and alleviate their anxieties.

The process of digitizing archive documents for legal and copyright purposes should be grounded on a comprehensive comprehension of copyright legislation and the principles of ownership rights. The possession of a physical object does not imply that an institution has the rights to duplicate it. The copyright status of the papers should be considered before digitization begins. Is it feasible to get authorization to digitize? Is the institution going to have the means to control access to digital assets after digitization is finished?

5. CHALLENGES

The administration of digital assets presents novel issues for academic libraries. The implementation of

intricate hardware and software is required. Additionally, the digitalization of library materials creates significant challenges for the primary stakeholders, namely the library management, workers, and library users. Although digitization offers several benefits, librarians and archivists in underdeveloped nations may have valid reasons to feel regretful about undertaking such projects. Not all items in the collection merit digitization due to the extensive nature of scanning a whole archives or library. Effective digital projects are achieved by meticulous planning and assessment of collections, ensuring that only the objects with the highest potential for user benefits are digitized. Here are some obstacles that librarians face while trying to implement digitization projects in the electronic age.

- **Juridical Considerations:** Copyright is relevant here. Keeping content in digital libraries legal in terms of copyright, IP, and related issues like plagiarism is a major challenge. Scholars and librarians should use caution on this matter. The potential detrimental effect of copyright laws on libraries' ability to provide digital collections and services is a growing worry among library community members. Copyright might indeed make it harder for libraries to provide free and unfettered access to the digital materials they acquire. For digital content to be created and shared across digital libraries in a fair manner for everyone involved, including those who create and consume it, copyright issues must be addressed. Digital collection development can face a major roadblock in the form of copyright.

- Institutions already feel the pinch when software and hardware changes and new versions hit the market. This is due to the fact that archiving digital collections requires storing digital materials temporarily, converting to new forms, and guaranteeing that they will be accessible in the future. Deterioration of storage media and the problem of ever-changing storage methods are two of the main obstacles to the long-term preservation of digital collections.

- Investing in digital ventures incurs significant costs. The process of digitizing archive and library automation necessitates substantial financing, mostly because to the need for continuous updates of hardware and software, as well as the rising expenses associated with subscribing to electronic databases. A big obstacle is educating archivists to digitize and preserve digital forms. An adequately financed digitization initiative guarantees the implementation of enhanced services and the long-term viability of the project.

- Lack of proficiency in information technology resulting in both technical expertise and technophobia. Many traditional librarians and archivists exhibit conservative tendencies and have a fear or aversion towards technology. The perception of computers as a danger to the standing of specialists arises due to age differences between young and elderly professionals. Consequently, they struggle to adapt or meet the demands of the electronic/digital era, and simultaneously exhibit a strong resistance to abandoning traditional methods in favor of new ones. Lack of sufficient technical proficiency is widespread in several developing nations. There is a deficit of personnel/human resources. There is a scarcity of librarians who possess computer science degrees, namely in the field of computer engineering, working in archives and libraries. As a result, there is a common occurrence of ICT facilities breaking down and services being disrupted in digitized libraries and archives.

- The insufficiency of technology infrastructures and frequent power outages pose significant obstacles to the process of digitalization. This degrades digital equipment and makes running them very expensive if there is a production set.

- Transcribing digital archives every 10 to twenty years is necessary to prevent technical obsolescence. The dynamic evolution of computer hardware and software leads to technical obsolescence, presenting a major threat to the digital preservation and digitalization procedures. The inability to access data stored digitally is the end consequence. Operating system upgrades cause technology to become obsolete, programming languages, applications, and storage media.

- Refreshing involves the periodic transfer of digital information to new physical storage media. This process helps prevent physical degradation and obsolescence of the medium, ensuring that the contents remain accessible. The loss of format is a concerning problem when information undergoes transfer between programs. Analog material being digitized results in the loss of information, and digital resources may also lose information throughout the process of being updated or moved to newer computer environments.

- Emulation is the process of enabling older data-sets to be executed on modern computers. Emulation is a process that resembles migration, except it specifically deals with the applications software rather

than the data files. Its objective is to develop novel instruments that can replicate the circumstances in which the primary data were generated. This may be achieved by replicating the functionality and design of early operating systems and software applications.

6. OPPORTUNITIES

The implementation of collection development techniques is a dual duty that libraries must uphold in a hybrid usage environment, where both printed and electronic resources are seamlessly linked to fulfill the different requirements of the communities they serve. Libraries must undergo transformation and adjustment to accommodate the evolving landscape, while considering the future requirements of users.

- Appropriate model It is crucial to take into account the variety of purchasing options and pricing models and ascertain which one best fulfills the library's requirements in terms of access, archiving, and cost-effectiveness. To effectively incorporate e-resources into their collection, Librarians need to be well-versed on the data resources' breadth, depth, and practicality in addition to the pricing strategies and methods used by different publishers. To make educated choices while choosing electronic resources, this information is vital. One strategy that has shown to be quite beneficial is the use of consortia tactics, including consortia licensing, which has been in place for a while now. This method aims to eliminate paper subscriptions for publications that libraries presently get in both physical and digital formats. The next step is to discontinue subscriptions to seldom read journals and instead get them on an as-needed basis. Subsequently, materials are archived in a permanent manner to ensure their preservation for future generations.

- There are now several suppliers offering ERMS services, which are interconnected. Ex Libris, Serials Solutions, and Innovative Interfaces Inc. are the main vendors of these systems. On top of that, there are open-source systems like HERMES at Johns Hopkins University and community-driven projects like Colorado Alliance's Gold Rush systems.

- Content that is specific to a certain location or region. Moreover, it is quite probable that several indigenous solutions are being used by librarians to tackle intricate management intricacies. Despite the absence of a formal system, almost every library is managing the procurement, licensing, categorization, integration, and use statistics associated with digital resources in their own manner.

- Fiscal equilibrium: The provision of access to electronic items is one of the library's principal functions. With the library's growing emphasis on electronic information, sometimes at the cost of print books, it is crucial to provide patrons simple methods to locate the specific information they want from these resources.

- The Online Catalogue serves as a method for accessing electronic content. Customers may access any electronic material that the library has subscribed to immediately via the supplied URL by utilizing title searching and subject headings.

- Unified compilation of OPAC for all sources The Online Public Access Catalog (OPAC) enables libraries to get insight into the materials accessible in other libraries. This information allows libraries to make informed decisions on the value and relevance of a particular document.

- This application offers computer-generated services, such as monitoring use, logging and download statistics, managing membership expiry and renewal, and simplifying data flow from library software. It also ensures compliance with publishers' terms and conditions. Libraries can create their own software to address the administration of these electronic resources when there is no commercially available software.

- The Digital Library Foundation (DLE) and the National Information Standards Organization (NISO) have joined forces to lead the charge in managing digital resources. Experts, public libraries, vendors, and consortiums all play an active role in this effort. The group has been holding a lot of meetings and workshops, as well as establishing numerous groups and committees, with the aim of finding effective solutions for the administration of electronic resources.

7. DIGITAL LIBRARY CHALLENGES AND OPPORTUNITIES

Modern library workers are vital to the improvement of library services and the advancement of research output. Innovations in technology have simplified routine duties for professionals and completely altered the way libraries provide their services to patrons. In order to collect, maintain, and provide reference services to patrons, library staff make use of these technological advancements. Across the globe, people have taken notice of and recognized the shift from print to digital mediums. Any online repository housing written works, moving images, audio files, and other media in digital formats is known as a digital library. Digital libraries not only provide storage, but also enable the organization, search, and retrieval of its contents. A digital library

allows for the storage and retrieval of digital materials over local or distant computer networks. In the current context, there is a need for institutional repositories (IR) that serve as archives and digital libraries. Library patrons need access to material that is meticulously kept for scholarly and educational purposes. Emerging technologies have advanced and positively impacted the improvement of academic libraries and their users. Libraries and library professionals have seamlessly incorporated digitalization into their daily operations. This makes it easier for the library to expand its activities, standardize its procedures, improve its communication facilities, and streamline its housekeeping operations to accommodate the wide variety of information needs of its customers. A One modern sort of information retrieval system is the digital library. The collections are kept in digital formats and may be viewed from any place at any time via computers or mobile devices; this is why it is called virtual. The phrase "library without walls," "digital library," "institutional repository," "virtual library," and "electronic library" are all used to represent different parts of a library. 'Digital Library' is a common and generally acknowledged way to describe these types of libraries. The concept of an online library is becoming more and more confusing. The "World Wide Web" was defined as a digital library by Cleveland (1998). He used the vast, searchable collection of information available on the World Wide Web to back up his claim.

4.1 Academic libraries in digital age:

The library is seeing an increase in the number of patrons who are students, researchers, and faculty. There is a great chance to meet the demands of users via the digital library services, who are indicative of the progress and advancement of any academic institution. are are a vital aspect of every education system and are renowned as repository of knowledge. Universities are the primary locations for most high-quality research. Consequently, academic libraries need to keep up with the times and provide new ways to help their patrons. University libraries are vital in the modern digital age for enabling the sharing of information. In the present day, libraries have transitioned from being repositories of physical collections to adopting a digital service orientation. Automated technologies are now available to libraries to let patrons easily browse library collections via open public access catalogues (OPACs). Academic libraries exist primarily to disseminate information and provide first-rate services to its patrons. Libraries have been working to improve their services in order to deliver books of high quality in formats that are easy for patrons to utilize. Academic libraries have long sought to enhance their institution's scholarly standing by enhancing the quality and effectiveness of its resources, services, instruction, and research. Thanks to their well-organized, user-friendly, and readily available collection of materials, libraries are effectively satisfying patrons' information needs. They do this by carefully considering the usability of the library system and evaluating use data to qualitatively evaluate user satisfaction. Hence, it is crucial to include the aforementioned components while developing a digital library.

- **Effectiveness:** This component mostly serves the purpose of gathering documents that need hosting. Only the papers that are necessary and significant for the users may be converted into digital format and posted to the digital library.
- **Efficiency:** The main focus is on document indexing, which helps with search capabilities.
- **Accessibility:** Library resources made available digitally via intranet or the web. How can the digital library be accessed (what is the login ID)? Access to authorized users should not be limited.
- **Usability:** An easy-to-navigate layout is essential for the digital library's user interface.
- **Qualitative:** Prior to establishing a digital library, A number of elements, including software and information resource quality, may be assessed.
- **Satisfactory:** A digital library should be set up in a way that is both cost-effective and meets the information needs of its users.

4.2 Library Professionals in digital age:

Incorporating the digital information environment into our day-to-day work activities is now essential. Every day of the year, library patrons have access to electronic resources that facilitate the discovery and retrieval of necessary information, regardless of their location or the time of day.

Librarians and library professionals should possess a diverse range of technical competencies to enhance the quality of services and information provided to users. Library staff have a responsibility to encourage patrons to become more proficient users of library resources in light of the increasing number of technological resources available to library patrons. In order for library and information science departments to successfully apply the basic concept of quality management, staff members who refuse to learn about modern technology must have a good reason to stay on the job.The OPAC-Online catalogue, among other digital resources, may be used by library staff to find documents, retrieve information, and access electronic resources and books. There are several challenges that modern library workers face as they try to redefine their role and reorganize information services in the digital age. Professionals have traditionally used methods to arrange and categorize information for the purpose of facilitating retrieval on behalf of users. Furthermore, librarians and professionals have

effectively performed the physical duties of advising, interpreting, and mediating to meet the information requirements of users. Every step of the new information cycle—from creation to reorganization, presentation, transmission, and use—should be embraced by the specialists. As a result, they need to rethink their role and reorganize information services to meet the needs of customers. Librarians need to be ready to handle the challenges and requests of those who use their services. According to Karmakar (2018), achieving significant gains in the performance of librarians and professionals requires a complete reevaluation and redesign of library procedures. In her study, Kaur (2015) emphasized that in the current digital era, librarians have the chance to manage information in a digital format, which includes tasks such as generating, sharing, preserving, and curating knowledge. Efficient management of digital information necessitates the use of digital technologies and the expertise of skilled professionals to cater to the demands of both present and future users. Hence, Skilled personnel are required to oversee the digital library and all of its offerings.

4.3 Opportunities and challenges for academic libraries in digital age:

In the digital realm, several methods exist for creating a digital library via network operations. In order to provide access to a large number of digital collections, digital libraries need to set up various hardware components such as workstations, networks, power backup systems, and storage devices. Additionally, they need to integrate software applications like Dspace, Greenstone, Fedora, and E-Print. Since the whole digital library is built using software that accomplishes all of the project's objectives, the technical aspect has grown in importance and is now vital. The five pillars upon which an efficient digital library rests are Steams, Structures, Spaces, Scenarios, and Societies (Conclaves et al., 2007). In their quality model for digital libraries, the authors used quality indicators that are inherent to digital library concepts.

Information retrieval: According to the research conducted by Fox, Goncalves, and Kipp (2002), the success of any digital library heavily relies on the effectiveness of information retrieval (IR). Additionally, they emphasized the need of indexing code for information retrieval. Hence, it is important to constantly assess the consumption of any digital library by its users. To improve the effectiveness of digital libraries, Gella Okojie and Olaniyi (2018) highlighted the use of social networking and semantic web technologies. They think digital libraries' ability to allow users to bookmark items would significantly impact the industry.

Planning: In order to acquire digital assets and digitize their current collection, The Digital Library requires a considerable financial investment. Various obstacles must be addressed throughout the development of any digital library. It emphasizes the fundamental obstacles that must be thoroughly evaluated prior to the creation of a digital library. In order to create digital libraries, librarians must first decide what they want to achieve, then choose the best software to achieve those goals, then catalog the materials that will need to be digitized, then think about how to make sure users can access the digital library easily, and finally, put safeguards in place to protect the information that will be stored there. Library workers should possess knowledge of copyright (IPR) concerns related to digitizing information and should comprehend the user-friendly nature of digital libraries in terms of accessibility.

Accessibility: When trying to use a digital library, users could run into a number of problems. Problems could develop because of an abundance of data, a poorly designed user interface, misleading data in the digital library, or a lack of ability to use the digital resources. As a result of the exponential growth of information, digital library collections are fast growing. Retrieving a specific and relevant piece of data from a vast information store is a complex task, since no search engine can comprehensively scan the whole web to facilitate the retrieval of specific data. Retrieving the necessary data or document has become a difficult chore for the user. Most publishers provide their material online, allowing consumers to obtain the complete text they require by paying a fee. The patron now need the services of a librarian in order to obtain the required data. Accessing online fee-based repository information is quite challenging due to the current budget limitations in libraries. Particularly in underdeveloped nations, libraries are discouraged from accessing such material owing to the exorbitant costs associated with it. Thus, financial limitations might restrict consumers from accessing the appropriate academic communication. To overcome this challenge, libraries need to devise strategies for subscribing to materials at any given time, to provide users with precise information.

4.4 Digital libraries in India:

Borgman (1999) noted that the 1990s saw a widespread preoccupation with the establishment of digital libraries in several nations. The emergence of digital libraries is a direct result of the exponential growth of IT. The nations comprising the European Union, United Kingdom, and United States have contributed significantly to the advancement of research in digital libraries via the implementation of national-level legislation. Digital libraries also saw explosive expansion in India at the turn of the century. Among the several names given to digital libraries by Mittal and Mahesh (2008) are institutional archives, digital repositories, digital libraries, and digital archives. According to their findings, digital library development in India is paralleling global trends. In recent years, India has seen the rise of many online repository systems and libraries. They stressed that the right material, technology, and software are essential for a digital library to be established. The vast majority of digital libraries and institutional repositories were found to

be using open-source software, including Greenstone, EPrints, and DSpace, according to the study. On top of that, The Digital Library of India project was emphasized as an ambitious goal that may be seen as the genuine article in relation to digital libraries in India. Mahesh and Mittal (2008) advised libraries to resolve copyright-related concerns before digitization began, expressing worry about copyright difficulties that could arise during the process. Hence, they advocated for the need of updating copyright laws to provide digital libraries direct access to consumers. Digital library initiatives in India are still in their infancy, according to Jain and Babbar (2006).

8. CONCLUSION

Currently, it is essential for all academic libraries to establish electronic resources as a fundamental need. The research demonstrates that academic libraries should take into account a range of tools and strategies when choosing an e-resource. The process of selecting materials for library collection development may be influenced by staff recommendations and the relevancy of the subject matter. Libraries may use many ways and procedures to get electronic resources, based on their specific requirements and the user group they want to serve. Nevertheless, a consortium is the prevailing approach used to get electronic resources. A challenging feature of digital curatorial management is the erosion of traditional borders, academic libraries must ensure that its staff get in-house training to improve their skills. Librarians need to cultivate their professional expertise and proficiency in using appropriate technology to effectively manage electronic resources, ensuring that they are easily accessible and used by a wide range of users worldwide. E-resources provide several benefits, addressing various professional challenges such as space constraints and enabling remote access. Multiple user surveys have demonstrated that the usage of electronic resources is growing at a fast pace. The expansion and improvement of electronic resources have been made possible by technological advancements. This same technology has the potential to provide improved solutions and increased prospects for comprehensive bibliographical control over global literature, a feat that is unattainable with printed resources. Library experts, publishers, vendors/aggregators, users, and software developers all need to work together more closely to solve common problems and further mutual interests. As a result, users will get the most advantages from these resources due to their enhanced production, use, maintenance, and management.

REFERENCES

1. Vrana, R. (2017, May). The perspective of use of digital libraries in era of e-learning. In 2017 40th International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO) (pp. 926-931). IEEE.
2. Varatharajan, N. & Chandrashekara, M. (2007). Digital Library Initiatives at Higher Education and Research Institutions in India. Library Philosophy and Practice (e-journal). Paper 157. http://digitalcommons.unl.edu/libphilprac/157
3. Trivedi, M. (2010). Digital libraries: functionality, usability, and accessibility. Library Philosophy and Practice (e-Journal), 381, http://digitalcommons.unl.edu/libphilprac/381
4. Tella, A., Okojie, V., & Olaniyi, O. T. (2018). Social Bookmarking Tools and Digital Libraries. In Handbook of Research on Managing Intellectual Property in Digital Libraries (pp. 396-409). IGI Global.
5. Shem, M. (2015). Digital Library Education: Global Trends and Issues. Journal of Education and Practice, 6(17), 66-70.
6. Feather J and Sturges R. P, International Encyclopedia of Information and Library Science. 2nd ed. London: Routledge, 2003, pp. 138.
7. Flanders. J. and Mylonas. E, —Digital humanities,‖ in Encyclopedia of Library and Information Science, M. J. Bate Ed., 3rd ed., 2010, pp. 1557-1568.
8. Fabunmi .B. A, Paris. M, —Digitization of library resources: Challenges and implications for policy and planning,‖ International Journal of Africa America Studies, vol. 5, no. 2, pp. 23-36, 2006. Accessed on 25/05/2016
9. Subrata Deb, Debal C Kar, Satish Kumar. Electronic Library : A case study with reference to TERI, The proceedings of the The Fourth International Conference of Asian Digital Libraries (ICADL), Bangalore, Dec 10- 12, 2001, Bangalore : ICADL 2001. 455 PP Accessed on 07/06/2016.
10. Ratnakar, K. V., Prerna, &Satyanaryana, K. (2009). Consortia to promote access to medical information: Some experiences of the Indian Council of Medical Research. DESIDOC Journal of Library and Information Technology, 29(5), 7-11.

Corresponding Author

Manisha R Gholap*

Research Scholar, Department of Library Science, University of Technology, Jaipur, Rajasthan, India

Email: gholapmanisha@rediffmail.com