

INTEGRATION OF EMERGING TECHNOLOGIES IN ACADEMIC LIBRARIES: A CASE STUDY OF GOVERNMENT DEGREE COLLEGE (AUTONOMOUS), GAJWEL, TELANGANA

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ABSTRACT

This research paper explores the integration of emerging technologies in academic libraries, focusing on Government Degree College (Autonomous), Gajwel, Siddipet District, Telangana State. Academic libraries are transitioning from traditional repositories of knowledge to technology-enhanced learning hubs that support digital scholarship, efficient information management, and user engagement. The study reviews the key technological trends, evaluates their potential applications at GDC Gajwel, and highlights the challenges and prospects within the Government Degree colleges of the Telangana state.

Keywords: Emerging Technologies, Degree College libraries, Blogs, Cloud Computing, AI,

Introduction

Academic libraries are considered as the heart of academic institutions. Nowadays, Academic libraries have undergone substantial transformation due to rapid advancements in information and communication technologies (ICT). Traditional cataloguing and physical collections are no longer enough to meet the evolving needs of students, faculty, and researchers. Emerging technologies such as Artificial Intelligence (AI), digital reference services, discovery systems, and hybrid library models reshape library functions, user interaction, and resource access.

Government Degree College (Autonomous), Gajwel.

Government Degree College (Autonomous) Gajwel was established in 1997 in Gajwel town, Siddipet District, Telangana State. This college is affiliated with Osmania University, Hyderabad, and is recognized by the UGC under sections 2(f) and 12(b) of the UGC Act 1956. The college was accredited with a 'B+' grade in the year 2021 in its 3rd cycle by the National Assessment and Accreditation Council (NAAC), Bangalore. Our college was conferred with UGC Autonomous Status from the academic year 2025-2026 onwards. The college has been offering undergraduate programmes, i.e. B.A., B.Com. and B.Sc., for the rural background students in this region.

Government Degree College (Autonomous), Gajwel Library.

The Library at Government Degree College (A) Gajwel is well equipped with textbooks, reference books, general and competitive books, journals, magazines, newspapers, back volumes of journals, CD/DVDs, syllabus copies, and previous question papers to support the teaching and learning activities of the college. The Library caters to the information needs of more than 600 users, including students, teaching staff, and non-teaching staff of the college. The college library is automated with INFLIBNET's SOUL 3.0 software, and it has initiated an Institutional Digital Repository, in which faculty publications and courseware can be accessed by students and faculty members.

Literature Review

As per the study of Inamdar (2022), emerging technologies and their implications for library services and operations. By embracing emerging technologies while also upholding their core values, libraries can continue to serve their communities and provide a valuable resource for learning, research, and discovery.

According to Vysakh (2020), emerging technologies are used for service delivery in the library. Numerous technologies have emerged recently, and some of these technological facilities are used in the library.

According to Lubanga and Mumba (2021), there are a number of obstacles that prevent libraries from implementing high-end technologies, including a lack of well-established centres for research and innovation, the unpredictable nature of technological advancement in the twenty-first century, and university cultures that discourage research and innovation.

According to Saibakumo (2021), the largest barriers to adopting new technology are a lack of funding, a shortage of power, and inadequate maintenance. Both information costs and quality are increasing. Fiscal restraints, insufficient maintenance and cultural updating, and a problem with record conversion can be linked to infrastructure problems, a lack of informatics/learning, and a lack of government assistance.

Makori and Mauti (2016) also listed a lack of knowledge, ICT infrastructure, information resources, social computers, weak institutional and physical structures, and a lack of skills and competence as factors that hinder the use of digital technology.

The main obstacles to implementing the newest technology in academic libraries have been identified as inadequate money for the library, a lack of competent library staff or a user education programme on improving library technology, and frequent power outages (Jan and Sheikh, 2014).

Research Objectives

The following is the objective for the present study.

- To identify emerging technologies relevant to College libraries.
- To evaluate the current technological preparedness of GDC (A) Gajwel Library.

Methodology Adopted

This study employs a qualitative review of secondary literature on emerging library technologies and contextualizes their relevance for Government Degree College (A), Gajwel.

Emerging Technologies

The Internet and other emerging technologies have been changing the total atmosphere and services of any library. It has been changing the way people communicate, interact, acquire, share, search, investigate and participate in the creation and reuse of the content and information (Jagdish Arora, 2009). Government Degree College (A), Gajwel Library has been harnessing these technologies to better support academic success, research, and lifelong learning.

Integrated Library Systems (ILS): Integrated Library Systems (ILS): Integrated Library Systems are the foundation of modern library management. Various open source softwares (Koha, NewGenLib, etc.) and commercial library automation software (SOUL, LIBSYS, VTLS, etc.) are available for computerisation of library housekeeping activities.

Government Degree College (Autonomous) Gajwel library has been automated using the SOUL 3.0 software. The housekeeping activities, such as acquisition, circulation, serials control, OPAC and administration activities, have been computerised to provide effective and efficient services to the users.

OPAC/WebOPAC: OPAC stands for Online Public Access Catalogue. OPACs are searchable by Author, Title, Subject and Keywords. Besides the bibliographical information, document availability, location, status, etc., information is displayed in OPAC. WebOPAC is accessible over the intranet and on the web.

The Library in Government Degree College (Autonomous) Gajwel has been providing OPAC/WebOPAC services to the users by establishing dedicated systems in the library for this purpose. Users can access the library catalogue through their mobiles within the campus.

Digital Library: Digital Library is a library in which the resources are available in a digital or machine-readable format. In simple terms, it can be defined as an electronic library with large and diverse repositories of electronic resources. Government Degree College (Autonomous), Gajwel, has taken the initiative towards establishing the Digital Library using the DSpace Digital Library Software. Faculty publications, Student study projects, Syllabus copies, Old question papers, college news clippings, etc., are preserved in this digital repository for the usage by the students and faculty members of the college.

Library Website: A website is a collection of related web pages on the internet. A website is one of the effective marketing tools for the libraries. A library which does not have a website is missing the opportunity “for marketing its services & this usually affects the patrons negatively in terms of finding the information they need.” (Burke, J. 2011).

Government Degree College (Autonomous), Gajwel Library is providing access to Online Public Access Catalogue (OPAC), library rules, links to useful websites, promoting access to subscribed as well as Open access Educational resources (OERs), etc.

Library Blog: According to Wikipedia “Blog is a discussion or informational website published on the World Wide Web.” Blog can be considered as personal website. WordPress and Blogger.com are the most popular Blogger websites designers.

Government Degree College (Autonomous), Gajwel library has been successfully integrating the blog to promote its resources and services. Through the blog, our library shares the new arrivals, learning materials, old question papers, syllabus, and other Open Access Educational Resources (OERs) with the users. Users also can communicate with the librarian and post their opinions, feedback and suggestions for the library.

Mobile Technologies: Mobile devices have become a part of our daily lives. They made our life more convenient by providing access to all the useful information at our fingertips. They keep us connected with family, friends, teachers, and colleagues through calls, text messages, e-mail, apps, and other social media networking applications. Mobile technologies can help libraries to reach more users and provide more convenient and accessible services. Mobile technology has come up with “the libraries in hand” trend. Librarians will need to become proficient in using these devices to enable users to access them anywhere from any place. (Rekhraj Sahu, 2016)

Social Media: Social media technologies such as Twitter, Facebook, and Instagram can be powerful tools for libraries to engage with users, promote their services and collections, and provide information and updates in real time. Libraries are not the exception to using the social media to foster online communities and encourage collaboration and knowledge sharing.

Our college library has been providing services, such as career and academic updates, overdue book reminders, new arrivals, library activities, event invitations, and other services to the users.

Barcode Technology: Barcode technology improves the speed and efficiency of library activities by eliminating errors and to reduces the time spent in keying the books and member's data into the library automation software. Government Degree College (Autonomous), Gajwel, is using barcode technology for the circulation of library resources as well as for the stock verification of library resources purpose.

QR Code Technology: A Quick Response (QR) code is an enhancement of barcode technology. Several versions and variations of QR codes are available that can be customized for different purposes, or which can store greater amounts of data.

Our college library has adopted QR code technology for providing services, such as providing the links for easy access to the library website, library blog, library membership registration, access to Open Educational Resources, etc.

Cloud Computing: Cloud computing is a combination of networking, storage technologies, which facilitates libraries in providing valuable services to their users. It uses web technology and central remote servers to maintain data, software and applications. Cloud computing allows users to use applications which have been installed on servers. Cloud computing enables the libraries in storing and managing the data more efficiently. Libraries can use cloud computing technology, such as Google Docs, Google Forms, Google Drive, Google Calendar, etc. (Yan, H. 2013)

Our college library has been using cloud computing technology for various purposes, such as library blog hosting, library event registration, organizing the competitions, such as essay writing, e-quizzes, etc., during the National Librarians Day, National Library Week celebrations, World Book and Copyright Day celebrations.

E-Learning: Libraries have been serving as a vital resource to enhance their formal education through e-learning tools such as SWAYAM, NPTEL, and SWAYAM PRABHA, etc. This platforms offers variety of courses that enables the users in learning new skills and expand their knowledge, that helps in their personal growth or professional advancement.

E-Resources: E-Resources stands for Electronic Resources. Information which can be stored, accessed and transmitted through electronic gadgets is called electronic information resources (Meera, 2002). Academic libraries have been providing access to various electronic resources for their clientele.

Government Degree College (Autonomous), Gajwel library is a member of Central Government's One Nationa One Subscription (ONOS) scheme, which facilitate in providing access to more than 13000 e-journals to its students and faculty members.

Electronic Security Technology: Electronic security systems are modern technological devices that are used with the aid of electrical apparatus to secure library materials. The security of academic libraries in Telangana is a major concern to the librarians because so much funding has been expended on the collections; therefore, there is a need to ensure adequate security of the resources from book theft and mutilations.

Government Degree College (Autonomous), Gajwel library has been provided with video surveillance and closed-circuit television (CCTV) system to monitor and record security, deter crime, and ensure the safety of library resources. CCTV can also be used to identify visitors and users and deter theft and ensure the security of the premises and other facilities.

Artificial intelligence (AI): AI is the buzz word in the present technology age. Libraries are not exception for AI technology. AI is being used by libraries to improve user experiences and automate routine tasks. For example, AI-powered chatbots can help users with basic questions and recommend resources based on their interests and past usage patterns. (Inamdar, 2022).

Government Degree College (Autonomous), Gajwel library using the AI technology in attending the reference queries of the users, analyzing the usage patterns of library resources, research assistance services, etc.

CONCLUSION

As libraries continue to adopt these technologies, they reinforce their role as dynamic, future-focused institutions, ensuring that their services remain relevant and impactful in a rapidly evolving digital landscape. Implementation of these technologies is likely to improve the reputation of libraries and the concerned institutions. The role of librarians has been changing in the present digital age, from custodians of books to providing virtual services for the users. The modern technologies are very useful to all types of libraries in providing new and innovative services to their users. Adaptation and implementation of emerging technologies is the need of the hour for any type of library.

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