Impact of ICT on Library and Information Services: A Study of AIIMS Institutions in Eastern India

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ABSTRACT

This study examines the integration and effectiveness of Information and Communication Technology (ICT) in library services at AIIMS institutions in Eastern India. AIIMS libraries serve as critical resources for medical education, research, and professional development. The adoption of ICT has transformed traditional library systems, improving accessibility, efficiency, and user engagement through digital repositories, AI-driven search tools, and automated cataloguing systems.

Through a mixed-method research approach, this study examines the extent and impact of ICT adoption in AIIMS libraries, focusing on digital resource utilization, user satisfaction, and technological barriers. Surveys and interviews will be conducted among AIIMS library users—including students, researchers, and faculty—to evaluate their experiences with ICT-driven services. Additionally, a comparative analysis of digital infrastructure across AIIMS institutions in Bhubaneswar, Kalyani, Guwahati, Deoghar, and Patna will be undertaken.

The research identifies key challenges in ICT implementation, including infrastructure constraints, funding limitations, and user adaptability issues. The findings aim to provide evidence-based recommendations for optimizing AIIMS digital libraries, ensuring seamless access to medical knowledge, and enhancing ICT-driven research capabilities. Moreover, this study offers insights into policy implications, guiding AIIMS institutions toward more effective digital transformations.

INTRODUCTION

Background

Libraries are the backbone of academic institutions, serving as reservoirs of knowledge and research support. Among India's most prestigious medical institutions, AIIMS (All India Institute of Medical Sciences) libraries play a pivotal role in advancing medical education, research, and professional development. These libraries are not merely repositories of books but dynamic centers of learning, housing extensive medical databases, research journals, and specialized digital archives that cater to students, faculty, and healthcare professionals.

In recent years, the integration of Information and Communication Technology (ICT) has transformed library

services across AIIMS institutions. Traditional libraries are evolving into digital hubs, providing seamless access to electronic resources, automated cataloguing systems, online medical journals, and AI-powered research assistance. ICT-driven innovations have streamlined data retrieval, knowledge management, and collaborative learning, significantly improving efficiency and accessibility.

One of the most significant advances in ICT-driven libraries has been the introduction of digital repositories, automated catalog systems, and AI-driven information retrieval technologies. These systems enable faster searches, personalized recommendations, and intelligent indexing, helping researchers and students navigate vast medical literature more effectively. AIIMS libraries are progressively adopting such tools to enhance research accessibility, optimize learning experiences, and bridge knowledge gaps within the medical community.

This study focuses on the adoption and effectiveness of ICT in AIIMS libraries in Eastern India, evaluating user satisfaction, technological challenges, and future prospects of digital knowledge management. This research seeks to offer evidence-based recommendations for enhancing library services and promoting digital transformation in medical education through the analysis of AIIMS institutions in Bhubaneswar, Kalyani, Guwahati, Deoghar, and Patna.

Statement of the Problem

In Eastern India, libraries at AIIMS institutes are vital centers for medical research, education, and information sharing. However, traditional library services are rapidly changing as a result of the development of information and communication technology (ICT). Even while ICT integration has greatly improved digital resource management, accessibility, and efficiency, a number of issues still exist that hinder its proper application and use.

Users still encounter technological obstacles, infrastructure constraints, and adaptation issues even after AIIMS libraries implemented digital repositories, automated cataloguing systems, and AI-powered research support. Students' and researchers' use of digital platforms is impacted by the uneven use of ICT caused by the absence of standardized regulations throughout AIIMS institutions. Additionally, the smooth expansion of ICT-driven library services is hampered by financial limitations and a lack of technical skills.

This study aims to analyze the extent of ICT adoption in AIIMS libraries across Eastern India, assess its impact on research accessibility, and identify user satisfaction trends. It will also explore institutional challenges in ICT implementation, including technical constraints, usability issues, and administrative policies. By addressing these gaps, the research seeks to provide evidence-based recommendations to optimize ICT-driven library services,

improve digital literacy among users, and ensure the effective utilization of AIIMS' medical knowledge resources.

Research Objectives

This study aims to examine the integration and effectiveness of ICT in library services at AIIMS institutions in Eastern India. Specifically, the research focuses on the following objectives:

. Assess the current level of ICT adoption in AIIMS libraries across Eastern India, identifying key technologies and digital resources used in medical education and research.

. Evaluate the impact of ICT-driven library services on knowledge management, accessibility, and research efficiency, determining how digital tools enhance user engagement.

. Identify the challenges and barriers affecting ICT implementation in AIIMS libraries, including infrastructure limitations, funding constraints, and technological adaptability.

. Develop evidence-based strategies to optimize ICT-driven library services, ensuring seamless integration of artificial intelligence, cloud-based systems, and e-resource platforms.

. Contribute to the broader discourse on digital transformation in medical libraries, offering insights that support AIIMS' commitment to innovation and healthcare education.

LITERATURE REVIEW

Suman and Patel (2024) investigated the users of Vivekanand Central Library, Central University of Jharkhand, Ranchi, to analyze their awareness, usage, and satisfaction levels of ICT-based library and information services. The researchers used a structured questionnaire with 125 participants, achieving a response rate of 91.20%. The study also focused on the demographic insights, frequency of library visits, and primary purpose of using library services. The researchers used SPSS statistical analysis software to analyze the data. The researchers found that users prefer printed resources over electronic resources, and the most utilized ICT-based service is RFID for the issue-return of the resources.

Suman et al. (2023) investigated how patrons seek information and how they perceive using the library's resources and services. A structured questionnaire was distributed to 105 patrons of the Patna University Library in Patna, Bihar, as part of the study. Simple statistical methods were used to analyze the data that was gathered. According to the report, the majority of library patrons come in every day primarily to prepare projects, assignments, and class notes. The study also showed that most library patrons are not satisfied with the ICT-based services the library currently offers. ICT-

based library resources and services need to be adopted and implemented, according to the study.

Aminu and Trivedi (2022) conducted a study on patron satisfaction at the Maharaja Sayajirao University of Baroda in Gujarat, India's Smt. Hansa Mehta Library. The study established how satisfied the patrons were with the library's information resources and services. The study was conducted using the survey method, and the population comprised students and staff of the Smt. Hansa Mehta Library. The study found that librarians need to improve their collections and services to fulfill the needs of their users.

Kalita (2021) conducted a case study to highlight the benefits the New Delhi AIIMS library provides its users through its collections, activities, services, infrastructure, and management. The study was conducted by distributing the questionnaire to AIIMS library professionals only. According to the survey, the library's e-resources and printed collections are well-equipped. Facilities for patrons with impairments are also available at the library. The report also noted that the library provides annual ICT usage training programs for library staff.

Ningoji and V. (2021) investigated the use of library materials and services by student-teachers in six B.Ed. college libraries in the Haveri District of Karnataka. 150 completed questionnaires were returned to the researchers after they distributed 30 in each college, for a total of 180. According to the study, the majority of student-teachers primarily used textbooks and visited the library largely to check out books rather than other digital resources or information services.

Shaikh and Dodiya (2021) studied the SS Agrawal College of Nursing Training College and Research Center, Navsari library patrons. The study was conducted to understand users' information needs, seeking behavior, and satisfaction level with the information resources, services, and cooperation of library staff provided by the library in the current digital era. 423 of the 453 GNM and ANM students who were given a well-structured questionnaire completed it, according to the researchers. The study concluded with recommendations for improving user satisfaction and offering user services.

Kalita and Singh (2020) examined the degree of user satisfaction and usage, and the Central Library's resources and services were used to identify user satisfaction. In order to complete the surveys, 120 students from Sikkim Manipal Institute of Medical Sciences (SMIMS), located in Gangtok, Sikkim, India, were chosen at random. The investigation discovered that students accessed the library to check out required books and peruse e-resources. Additionally, students favored electronic resources over printed ones, according to the researchers.

Kasimani and Rajendran (2020) visualized the transformation of traditional library services to modern automated systems and examined users' satisfaction with public libraries in Chennai. The researchers distributed 1,500 questionnaires, of which 1,237 were responded to, resulting in a response rate of approximately 82.5%. The data were analyzed using SPSS 20, the Chi-square test, and standard deviation. The study shows that the majority of the respondents, i.e., 28.5%, were highly satisfied with the resources and services of Chennai public libraries.

Siddiqui (2018) presented the changing scenario of libraries with the application of IT in different sections of libraries. The researcher also highlighted the conditions of Health Science Libraries regarding human power, qualified and experienced staff, collection development, and other facilities. The researcher discovered that most of the staff are competent. The study also revealed that IT has entirely changed the function of libraries, which has also improved the efficiency of the libraries.

Singh et al. (2009) reported the issues and reasons that hinder ICT applications in libraries and information centers, as well as the solutions to the problems. The researchers evaluated the usage and availability of ICTs in the library and information center of NOIDA. The study was conducted using a structured questionnaire on 25 library and information centers from multiple sectors, including public, government, corporate, public enterprises, and private. Except for the Network Programs Library, the majority of NOIDA's libraries and information centers, according to the study, offer basic hardware services.

RESEARCH METHODOLOGY

Research Design

A mixed-method approach is used in this study to assess the efficacy of ICT in AIIMS libraries in Eastern India, combining quantitative survey analysis with qualitative case studies.

A structured survey, data collection from case studies, online/web portals, and interviews with library professionals, library administrators, and relevant AIIMS students, researchers, and faculty comprise the quantitative component. Its purpose is to measure trends in ICT adoption, user satisfaction, and accessibility. The statistical analysis of the responses will reveal usage trends and the efficacy of the technology. The qualitative component includes in-depth case studies of AIIMS libraries in Patna, Deoghar, Guwahati, Bhubaneswar, and Kalyani that examine user experiences, institutional library services, and ICT implementation strategies. Interviews with administrators and library professionals will provide insights into best practices and services offered by libraries.

A thorough assessment of ICT integration is guaranteed by this dual-method research methodology, which provides contextual insights and empirical data that support policy suggestions for AIIMS digital library optimization.

Data Collection Methods

To ensure a comprehensive analysis of ICT integration in AIIMS libraries, a multi-layered data collection approach will be employed. To obtain a variety of perspectives, the study will include interviews, structured questionnaires, online/web-based portals, and observational research.

1. Case Studies: The information will be used to create qualitative case studies that highlight how academics, researchers, students, and library professionals use the AIIMS library services. The purpose of these case studies is to evaluate:

◆How users interact with the library system and how they seek information.

◆Opportunities and obstacles in the application of ICT for medical library services.

◆How academic procedures and research are affected by digital library resources.

◆How ICT-driven library resources, such as digital catalogs, e-books, and e-journals, are used.

◆The degree of user satisfaction with automated search engines and internet resources.

2. Online / Web Portal: A dedicated web-based data collection portal will be set up to gather responses efficiently. This portal will:

◆Give participants the opportunity to provide immediate input on ICT accessibility.

◆Use interactive forms to monitor trends in the use of digital libraries.

◆Include open-ended questions to get qualitative feedback on what needs to be improved.

3. Interviews: In-depth interviews will be conducted with AIIMS library administrators, technology experts, and policymakers to understand:

◆AIIMS libraries' ICT adoption initiatives.

◆Institutional impediments to the use of digital services.

◆Suggestions for policies and future initiatives to improve AI-driven library administration.

4. Observational Study: Library visits will be conducted to observe:

◆AI-powered search engines and smart catalogs as examples of automation tools used in library operations.

◆The usability and accessibility of digital repositories.

◆How users engage with ICT-based educational materials.

A thorough grasp of ICT-enabled services at AIIMS libraries in Eastern India is ensured by this mixed-method approach.

Sample Selection

This study focuses on AIIMS institutions in Eastern India, specifically Bhubaneswar, Kalyani, Guwahati, Deoghar, and Patna. A thorough evaluation of digital library services is made possible by the wide range of ICT adoption levels represented by these institutions.

1. Target Population: To ensure a comprehensive viewpoint on ICT integration, the study will involve academics, researchers, students, and librarians from AIIMS. The selection of these stakeholders will aid in assessing:

◆Librarian perspectives on ICT deployment, obstacles, and policy frameworks.

◆User experiences with automated catalog systems, AI-powered search engines, and digital repositories.

◆Disparities in the institutional deployment of ICT among AIIMS campuses.

2. Sample Size: The size of the sample will include at least 150 people from AIIMS institutions, including:

◆Library professionals (chief librarians, IT managers, and support personnel).

◆Medical students who actively engage with digital knowledge resources.

◆Researchers and faculty members who utilize ICT for academic and professional purposes.

This diversified sample selection ensures that findings reflect real-world experiences with ICT-driven library services, providing an evidence-based foundation for recommendations and future improvements.

Profile of AIIMS institutions in Eastern India:

AIIMS Institution	Establishment Year	Intake Capacity	Opening Hours (Daily)	ICT Features	Library URL	Website
AIIMS Bhubaneswar	2012	125 (MBBS)	24x7 (Reading Room)	RFID-enabled system, Koha ILMS, RemoteXs access, Knimbus web tool	https://aiims-bhubaneswar.nic.in/library/aboutLibrary.html	https://aiimsbhubaneswar.edu.in/AIIMSBBSR/
AIIMS Patna	2012	100 (MBBS)	24x7 (Reading Room)	Digital repository, OPAC, RemoteXs access	https://aiimspatna.edu.in/central-library/	https://aiimspatna.edu.in/

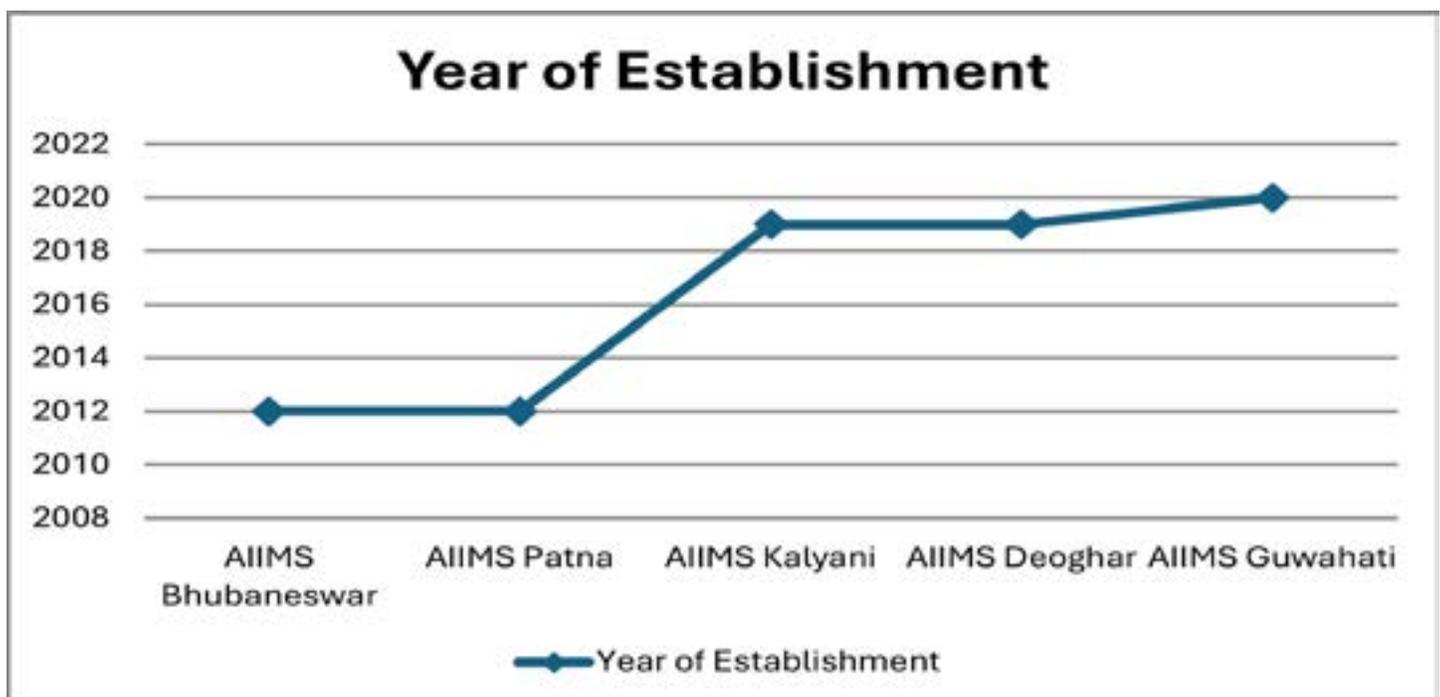| AIIMS Kalyani | 2019 | 125 (MBBS) | 24x7 (Reading Room) | Digital library access, OPAC | https://www.aiimskalyanilibrary.org/ | https://aiimskalyani.edu.in/ |
| AIIMS Deoghar | 2019 | 100 (MBBS) | 24x7 (Reading Room) | Digital library access, OPAC | https://www.aiimsdeoghar.edu.in/ | https://www.aiimsdeoghar.edu.in/ |
| AIIMS Guwahati | 2020 | 50 (MBBS) | 24x7 (Reading Room) | Digital library access, OPAC | https://aiimsguwahati.ac.in/page/lab_services | https://aiimsguwahati.ac.in/ |

Table: 01

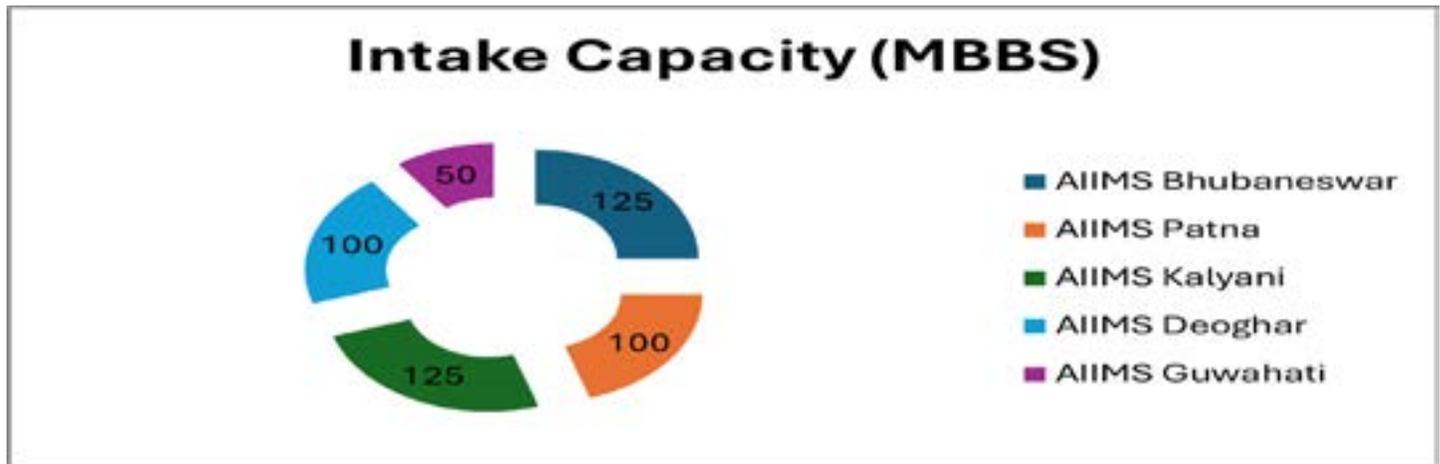| S. No.	AIIMS, Institution	Year of Establishment
	AIIMS Bhubaneswar	2012
	AIIMS Patna	2012
	AIIMS Kalyani	2019
	AIIMS Deoghar	2019
	AIIMS Guwahati	2020

The above data indicate a gradual expansion of the AIIMS in the eastern part of India. The first phase of this expansion started with the setting up of AIIMS Bhubaneswar and AIIMS Patna in 2012. AIIMS Kalyani in West Bengal and AIIMS Deoghar in Jharkhand were constituted in 2019, and AIIMS Guwahati in Assam was established in 2020. This is indicative of the government's commitment to expanding access to quality healthcare and medical education to these underserved areas.

Table: 02

S. No.	AIIMS, Institution	Intake Capacity
	AIIMS Bhubaneswar	125 (MBBS)
	AIIMS Patna	100 (MBBS)
	AIIMS Kalyani	125 (MBBS)
	AIIMS Deoghar	100 (MBBS)
	AIIMS Guwahati	50 (MBBS)

The above table shows that the various AIIMS have different student intake capacities for the MBBS courses depending on infrastructure and stage of growth. AIIMS Bhubaneswar and AIIMS Kalyani have a modest setup as well, with an MBBS capacity of 125 each. Both AIIMS Patna and AIIMS Deoghar have a yearly intake of 100 students. As a new institution, AIIMS Guwahati presently has an intake capacity of only 50 students for MBBS. The existing capacity is distributed according to the growth of the institutions and health planning at the regional levels.

Year of Establishment

Case Profile: ICT Implementation in Central Library, AIIMS Bhubaneswar

Introduction

The Central Library of AIIMS Bhubaneswar, operational since October 3, 2012, stands as a well-structured academic information hub catering to the knowledge needs of faculty, medical students (MBBS and PG), nursing students, and paramedical disciplines. It has significantly evolved under the leadership of successive faculty chairs and now incorporates modern ICT tools to support academic excellence and evidence-based medical education.

ICT Infrastructure and Services
Automation and Software
◆The library is fully automated with the Koha Integrated Library Management System (ILMS), enabling streamlined cataloguing, circulation, and patron management.
◆An RFID (Radio Frequency Identification) system is deployed for book issue/return, inventory control, and anti-theft mechanisms—enhancing user autonomy and staff efficiency.
◆Library OPAC is accessible via the internal IP: http://10.200.10.150/, facilitating the search and discovery of print and digital resources.

Digital Access and Remote Learning
◆From January 2021, the library integrated the Knimbus web tool and mobile app (mLibrary) for seamless access to subscribed digital content both on- and off-campus.
◆A dedicated remote access portal (RemoteXS): [http://centrallibraryaiimsbbsr.remotexs.in/home](http://centrallibraryaiimsbbsr.remotexs.in/home" \t "_new) provides 24x7 access to e-resources.

E-Resources and Digital Content
◆e-Books: 1,342 titles
◆e-Journals: Approx. 1,985 titles, including ClinicalKey (Elsevier, 819+), LWW (348), BMJ (21), ERMED Consortium (269), and Medknow (452)
◆Databases: CINAHL Complete and Access Medicine
◆Clinical Decision Support: UpToDate by LWW
◆Multimedia: 464 CDs/DVDs
◆Institutional publications such as Arogya Sudha (Annual Newsletter) and Insight (Student Magazine) are available digitally and in print.

Physical and ICT-enabled Spaces
◆The library operates a 24/7 Reading Room facility, promoting flexible study schedules.
◆It maintains 60 functional computer terminals with limited Wi-Fi access, providing access to digital content, databases, and research tools.

Services and Timing
◆Circulation: 9 A.M. to 9 P.M. (Weekdays), Saturday until 5:15 P.M.
◆Computer Section: Operates during weekdays and Saturdays.
◆Photocopy/Xerox: Available Monday to Saturday.
◆Reading Room: Open 24x7.
Observations and Implications for ICT-Based Library Service
AIIMS Bhubaneswar demonstrates a strong integration of ICT in library management and service delivery. The inclusion of Koha, RFID, Knimbus, and RemoteXS showcases a strategic effort to transform traditional services into dynamic, accessible, and user-centered digital library functions. Despite infrastructural constraints such as limited Wi-Fi and computer terminals, the facility represents a model for ICT adoption among government medical libraries in eastern India.

Case Profile: ICT-Enabled Library Services at AIIMS Patna

Introduction
The All-India Institute of Medical Sciences (AIIMS) Patna

is a leading medical institution in Eastern India, committed to excellence in healthcare education, research, and patient care. In order to improve accessibility, efficiency, and user engagement, its Central Library integrates Information and Communication Technologies (ICT) to support academic and research operations. The use of ICT in library services has revolutionized traditional resource management by facilitating automated transactions, collaborative learning, and easy access to digital content.

ICT Implementation in Library Services
AIIMS Patna has embraced ICT-driven solutions to modernize its library services. A few key initiatives include:

Digital Library & E-Resources
◆AIIMS Patna provides access to 9,664 books, including 1,196 e-books and 1,328 e-journals.
◆Remote access to digital resources ensures seamless research opportunities for staff and students.

RFID-Enabled Library Smart Cards
◆AIIMS has introduced RFID-enabled smart cards for library communication, allowing users to issue and return books effectively.
◆The system lets users check book availability via the OPAC.
Interlibrary Loan & Institutional Repository
◆AIIMS Patna collaborates with DELNET for inter-library loan services, allowing library users to borrow books from other institutions.
◆The AIIMS Institutional Repository archives books, research documents, and articles authored by AIIMS staff.

Training & Awareness Programs
◆AIIMS Patna organizes training and workshop sessions to familiarize library users with digital resources and ICT tools.
◆These initiatives develop research competence and promote the implementation of e-resources.

Impact & Future Prospects
The integration of ICT in AIIMS Patna's library services has significantly improved accessibility, research productivity, and user engagement. AIIMS Patna aims to expand its digital infrastructure, enhance AI-driven research support, and strengthen collaborations with other institutions. This case profile highlights AIIMS Patna's commitment to leveraging ICT to modernize library services and foster a technology-driven research environment in Eastern India.

Case Profile: ICT-Enabled Library Services at AIIMS Kalyani

Introduction

AIIMS Kalyani, established under the Pradhan Mantri Swasthya Suraksha Yojna (PMSSY), inaugurated its Central Library on 8th March 2021. As an integral academic and research facility, the Central Library has quickly adopted Information and Communication Technologies (ICT) to provide a robust, learner-centered environment supporting clinical education, biomedical research, and healthcare management.

ICT Infrastructure and Digital Resource Platforms
The Central Library of AIIMS Kalyani utilizes a technology-driven platform powered by EBSCO Stacks to deliver its services. Key components include:
◆AIIMSK Digital Library Portal: [https://www.aiimskalyanilibrary.org](https://www.aiimskalyanilibrary.org" \t "_new)
◆E-resource Centre: Equipped for research, academic, and study purposes. Users are registered and provided controlled access, ensuring optimal utilization.
◆Access Management: Implemented through OpenAthens for secure and customized access to subscribed databases and digital content.
◆eBooks & Databases: Integration with ProQuest, EBSCOhost, and other major platforms for 24/7 access to medical and health sciences resources.

Subscribed & Open Access e-Resources
AIIMS Kalyani subscribes to and indexes a wide range of high-impact journals and databases, including:
◆UpToDate Clinical Decision Support
◆Lexicomp Online
◆Springer, Oxford Academic, SAGE, Elsevier, BMJ, and LWW journals
◆Cochrane Library and ScienceDirect
◆JSTOR and ScienceOpen
◆Taylor & Francis Open, Wiley Open, and Indian Journals databases

Additionally, the library provides access to

◆BMJ Case Reports and BMJ Best Practice
◆Nursing and Allied Health Collections (RCNi)
◆Access to medical examination resources and previous year question papers via the Institutional Repository

ICT-Based Services & Functional Features
The AIIMS Kalyani library offers a diverse range of user-friendly digital and hybrid services:

◆Book Alert and Periodical Alert Services (monthly and fortnightly)
◆Download, Print, and Email Facilities from E-resource Centre (Rs. 5/page)
◆E-resource Usage Monitoring through Browsing History Tracking
◆User Guides & Tutorials: Video guides and "Step-by-Step" manuals for Discovery Tools, OpenAthens, and digital literacy
◆"Ask a Librarian" Support for personalized queries

◆Book Bank: Textbooks for socially/economically weaker sections
◆Professional Exam Archives: Undergraduate and nursing course exam papers hosted on the library portal

1 Rules & Ethical Use

Strict rules govern the use of the e-resource centre. Social media, ticket booking, or online transactions are prohibited. Each user is required to log their research intent, and misuse leads to the revocation of privileges.

2 Feedback and User Engagement

The library maintains a feedback mechanism to assess and improve digital services continuously. It enables students and faculty to recommend resources or report issues with digital access and service quality.

Case Profile: ICT-Integrated Library Services at AIIMS Deoghar

Introduction

The All-India Institute of Medical Sciences (AIIMS) Deoghar is a premier healthcare and medical education institution in Eastern India, established under the Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) to address regional disparities in medical education and healthcare. The Central Library at AIIMS Deoghar supports academic and research activities, integrating Information and Communication Technologies (ICT) to enhance accessibility, efficiency, and user engagement.

ICT Implementation in Library Services
AIIMS Deoghar has adopted various ICT-driven solutions to modernize its library services. Some key initiatives include:

Digital Library & E-Resources
◆AIIMS Deoghar provides access to many e-books, e-journals, and digital databases to support medical research and education.
◆Remote access to digital resources ensures seamless research opportunities for faculty and students.

RFID-Enabled Library Smart Cards
◆AIIMS has introduced RFID-enabled smart cards for library transactions, allowing users to issue and return books efficiently.
◆The system lets users check book availability via the Online Public Access Catalogue (OPAC).

Interlibrary Loan & Institutional Repository
◆AIIMS Deoghar collaborates with DELNET for interlibrary loan services, allowing users to borrow books from other institutions.

◆The AIIMS Institutional Repository archives books, articles, and research documents authored by AIIMS faculty.

Training & Awareness Programs
◆AIIMS Deoghar organizes workshops and training sessions to familiarize users with digital resources and ICT tools.
◆These initiatives improve research efficiency and promote the adoption of e-resources.

Impact & Future Prospects
The integration of ICT in AIIMS Deoghar's library services has significantly improved accessibility, research productivity, and user engagement. AIIMS Deoghar aims to expand its digital infrastructure, enhance AI-driven research support, and strengthen collaborations with other institutions. This case profile highlights AIIMS Deoghar's commitment to leveraging ICT to modernize library services and foster a technology-driven research environment in Eastern India.

Case Profile: Integration of ICT in Central Library, AIIMS Guwahati

Introduction

The Central Library of AIIMS Guwahati was inaugurated on 23rd February 2023 as a vital component of the academic infrastructure. Located on the third floor of the Medical College building, the library was established to support teaching, research, and clinical education through access to print and digital knowledge resources. Despite being relatively new, the library has rapidly adopted various ICT tools and services to meet the evolving needs of its users.

◆Vision and Mission

The mission of the Central Library is "to go beyond walls to reach every nook and corner for knowledge dissemination." This vision reflects the library's aim to harness ICT to provide students, faculty, and researchers with inclusive, ubiquitous access to medical information and learning resources.
◆ICT Infrastructure and Services
◆Digital Access and Subscribed Resources
The library provides robust access to a wide range of digital academic resources, including:
◆Clinical Key Flex Database (March 2024–2025, with remote access)
◆UpToDate Advanced (March 2024–2025, with remote access)
◆Springer (291 e-journals), SAGE (245 e-journals), and Thieme (19 e-journals) with access to backfiles and perpetual access for 2024 subscriptions.
◆ERMED Consortium resources, including e-journals, e-books, and databases such as Access Medicine and BMJ Case Reports.

Remote access to BMJ Journals and Case Reports is also available, ensuring extended usability for faculty and postgraduate researchers.

ICT-Enabled Facilities and Services

The library features an E-Resources Display Area and E-Resource Arrival Alert Service, which informs users of new additions and database updates.

Smart TVs are used for visual learning and displaying digital tutorials.

Dedicated Wi-Fi supports online database access and digital research tools.

A fully networked CCTV surveillance system ensures security and resource protection.

Reference and Support Services

A reference service is provided for in-depth information retrieval and literature search assistance.

Scanning, printing, and photocopying facilities are available for academic and research use.

Video tutorials on ERMED databases are available to users for effective resource navigation.

Library Collection and Physical Infrastructure

Print Books: 1,260+ medical textbooks (as of March 2024)

Donated/Complementary Books: 120+

Journals and Magazines: Access to 8 leading magazines and four daily newspapers in English, Hindi, and Assamese

Seating: Provision for 200+ users, including separate reading areas for faculty and periodicals

Operating Hours: The reading area is functional from 9:00 AM to 10:00 PM, Monday to Saturday

Evaluation and Impact

Though newly established, the Central Library at AIIMS Guwahati exemplifies a forward-thinking approach to library services. Its commitment to remote access, e-resource integration, and ICT-driven library management positions it as a growing digital knowledge center within the Eastern region. Using platforms such as Clinical Key and UpToDate, alongside local support mechanisms like tutorials and information display boards, suggests a library service in alignment with global academic standards.

Data Analysis Techniques

◆**Descriptive and inferential statistics** for survey responses.
◆**Comparative analysis** of ICT adoption across AIIMS institutions.
◆**Thematic analysis** of qualitative feedback.

Findings and Discussion

Effectiveness of ICT-Based AIIMS Library Services

◆**Improved accessibility** to medical databases and e-journals.

◆Enhancement of **search functionalities, AI-driven knowledge retrieval, and digital archives**.

User Satisfaction Trends

◆Preferences for **e-books, virtual consultations, and AI-assisted research tools**.
◆Differences in **ICT adaptability among students, researchers, and faculty**.

Challenges and Barriers in ICT Integration

◆**Infrastructure constraints** hindering digital expansion.
◆Institutional **policy gaps affecting the scalability** of ICT-driven libraries.
◆**Strategies for overcoming technological limitations** in AIIMS libraries..

Conclusion & Recommendations

Conclusion

The present study reaffirms that the integration of Information and Communication Technologies (ICT) into library services has profoundly transformed the academic and research environment of AIIMS institutions in Eastern India. Libraries are becoming hybrid and digital knowledge centers that provide improved accessibility, real-time information retrieval, and interactive learning opportunities. Previously, libraries were only able to provide traditional services and physical collections. AIIMS libraries have effectively positioned themselves in line with worldwide trends in digital information management through programs like RFID-enabled circulation, Koha-based integrated library systems, RemoteXs portals, and AI-powered discovery tools. In addition to increasing efficiency, these advancements have given researchers, instructors, and students the ability to interact more deeply with medical literature and evidence-based resources.

However, the results show that there is still disparity in ICT use across AIIMS campuses. Newer campuses like Guwahati and Deoghar are still in the early stages of digital adoption, while more established institutions like AIIMS Bhubaneswar and Patna exhibit rather sophisticated ICT infrastructure. This discrepancy emphasizes how crucial it is for institutions to have coordinated plans and distribute resources fairly. Furthermore, obstacles that prevent ICT from reaching its full potential include financing constraints, policy inconsistencies, infrastructure deficiencies, and limited user adaptability.

Crucially, the report emphasizes that ICT adoption involves cultural and pedagogical change in addition to technological

investment. To guarantee that ICT-enabled services result in increased academic and research productivity, digital literacy, user engagement, and institutional commitment are all equally important. Even the most advanced systems run the danger of being underutilized in the absence of proper training and policy backing.

In a broader sense, the case of AIIMS libraries illustrates the shifting paradigm of medical education and research in India, where the demand for seamless digital access, collaborative learning, and technology-driven knowledge dissemination is growing exponentially. By addressing the identified challenges and embracing innovative practices, AIIMS libraries can position themselves as national leaders in ICT-driven library services. Their successful digital transformation would not only benefit their immediate academic communities but also set a benchmark for other medical and academic libraries across the country.

Recommendations

Based on the study's insights, the following recommendations are proposed to optimize ICT integration and strengthen library services at AIIMS institutions:

Strengthening ICT Infrastructure

AIIMS libraries should expand digital facilities by investing in high-speed internet, adequate computer terminals, and seamless Wi-Fi connectivity to ensure uninterrupted access to digital resources.

Policy Harmonization Across AIIMS

A unified digital policy framework should be developed across all AIIMS institutions to ensure standardization in ICT adoption, resource sharing, and service delivery.

Enhanced Funding and Resource Allocation

Dedicated budget allocations for ICT-enabled library services, including AI-driven platforms and e-resource subscriptions, must be institutionalized to address funding disparities.

Digital Literacy and Training Programs

Continuous training workshops for students, faculty, and library professionals should be conducted to improve digital literacy, foster effective use of ICT resources, and enhance user adaptability.

Collaborative Resource Sharing

AIIMS institutions should strengthen consortia-based resource sharing and interlibrary loan services, leveraging platforms like DELNET and ERMED for cost-effective and expanded access to medical literature.

Innovation in ICT-Driven Services

AIIMS libraries should explore emerging technologies such as blockchain for secure research data management, AI for personalized information retrieval, and AR/VR for immersive medical education experiences.

Monitoring and Evaluation

Regular assessments of ICT usage patterns and user satisfaction should be institutionalized to identify service gaps and inform continuous improvement in digital library management.

Closing Remark

The findings of this study reaffirm that ICT is not merely a tool but a catalyst for advancing medical knowledge and education. AIIMS libraries in Eastern India can develop into model ICT-driven knowledge ecosystems by tackling policy, budgetary, and infrastructure issues. This would enable researchers, teachers, and students to flourish in an academic environment that is increasingly connected through technology.

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