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## APPLICATION OF ICT BASED RESOURCES AND SERVICES OF DCRUST UNIVERSITY LIBRARY, MURTHAL - SONEPAT (HARYANA)

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### Abstract

Information and Communication Technology (ICT) plays a crucial role in enabling libraries to fulfill their objectives. This research article examines the ICT-based resources and services offered by the DCRUST (Deen Bandhu Chhotu Ram University of Sciences & Technology) University Library, Murthal in Haryana, focusing on the library services most frequently utilized by its users. The study assesses the challenges faced by users to usages of the library's services, along with users' perceptions of the library's ICT resources and services. The incorporation of digital technologies in the library, including online catalogs (Web-OPAC), electronic journals, digital repositories, and automated library operations, and digitally collection development has profoundly transformed traditional library services. These ICT tools have significantly improved user access to a diverse array of digital resources, facilitating remote access for library patrons.

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## 1.0 INTRODUCTION

The application of ICT-based resources and services at DCRUST University Library, Murthal, plays a crucial role in enhancing the academic experience for students and faculty alike. As digital tools and platforms become increasingly integral to higher education, evaluating their effectiveness is essential for ensuring they meet user needs and support scholarly activities. This study examines the application, functionality, and overall user satisfaction with the library's digital resources and services. By assessing these aspects, the research aims to identify areas for improvement, ensuring that the ICT infrastructure supports efficient information retrieval and fosters a more productive academic environment at DCRUST University. The pace at which knowledge, information, and data are converted into electronic formats has significantly accelerated due to technological innovation. Advances in software have led to the creation of robust knowledge management systems that have revolutionized the organization, storage, access, and retrieval of knowledge (Smith, 2005). The integration of information communication technologies in libraries proves to be highly advantageous, as it facilitates the provision of new services, improves user satisfaction, fosters a research-oriented environment, and contributes to the enhancement of institutional rankings (Kushawaha & Verma, 2018).

### 1.1 What is ICT?

Information and Communication Technology (ICT) refers to a comprehensive array of technologies that support the creation, storage, manipulation, and dissemination of information. It encompasses a variety of devices, networking elements, applications, and systems that facilitate interaction among individuals and organizations in the digital realm. ICT comprises both hardware components, such as computers, servers, and networking equipment, as well as software solutions, including operating systems, applications, and databases, which are essential for managing and processing information. A significant feature of ICT is its capacity to improve communication, which includes traditional methods like telephony and radio, alongside contemporary digital channels such as email, instant messaging, video conferencing, and social media platforms. The Internet serves as a vital infrastructure, offering a worldwide platform for data exchange and connectivity. ICT has transformed numerous sectors, including education, healthcare, finance, and entertainment. In the educational sector, it facilitates e-learning and provides access to extensive resources. In healthcare, ICT enables telemedicine and the management of electronic health records. The financial sector benefits from online banking and digital transaction capabilities. The entertainment industry has evolved with the advent of streaming services and online gaming. In summary, ICT is a dynamic and progressive field that continually reshapes our methods of living, working, and communicating. It is a cornerstone of the digital era, fostering innovation, efficiency, and connectivity within society.

### 1.2 Kind Of ICT

Information and Communication Technology (ICT) encompasses a wide range of technologies used to handle telecommunications, broadcast media, audio-visual processing, intelligent building management systems, and network-based control and monitoring functions. The primary types of ICT include:

1. **Telecommunication Technologies:** These include telephone systems, mobile communication, and satellite communications, enabling voice and data transmission over distances. Key components are cellular phones, VoIP, and satellite phones.
  2. **Networking Technologies:** This category includes the internet and intranets, as well as local area networks (LAN) and wide area networks (WAN). Routers, switches, and modems are essential hardware components, while protocols like TCP/IP facilitate data exchange.
  3. **Broadcasting Technologies:** Television and radio broadcasting fall under this type, involving the transmission of audio and video content to a wide audience. Digital broadcasting and streaming services are modern advancements in this field.
  4. **Data Processing Technologies:** This involves the use of computers and software to process, store, and manage information. Components include databases, cloud computing, and data analytics tools.
  5. **Office Automation Technologies:** Tools that enhance productivity in the office environment, such as word processors, spreadsheets, and presentation software. These technologies streamline tasks and improve efficiency.
  6. **Multimedia Technologies:** This includes graphics, animation, audio, and video production and editing tools. Multimedia technologies are used in various fields like education, entertainment, and advertising.
- These types of ICT collectively enhance communication, streamline operations, and foster innovation across various sectors.

### 1.3 About University:

Since its founding as the CRSCE, Murthal in 1987, the Deenbandhu Chhotu Ram University of Science and Technology, Murthal, has played a crucial role in Haryana's technical education system and by upgrading the former Chhotu Ram State College of Engineering in Murthal, Deenbandhu Chhotu Ram University of Science & Technology, Murthal was established on November 6, 2006, by an Act 29 of 2006 passed by the Haryana state legislature. The university's mission is to achieve excellence in these and related fields while facilitating and promoting studies and research in emerging areas of higher education, with a focus on new frontiers in science, engineering, technology, architecture, and management studies. In March 2009, the University was deemed eligible for funds under Section 12(B) of the UGC Act, 1956. The technical and professional colleges and institutes in the Sonapat district have been associated with the university, which has obtained affiliating status. Six B.Tech courses offered by the The National Board of Accreditation (NBA) has also granted accreditation to universities. The university offers a central research resource, the Central Instrumentation Laboratory, to academics from several departments or external institutes.

1.4 Courses Offered:

University offers the many kinds of courses such as Architecture, Agricultural Engineering, Biomedical Engineering, Biotechnology, Chemical Engineering, Civil Engineering, CSE, ECE, Mechanical, EVS, Food Technology, Humanities, Management, Physics, Chemistry, and Mathematics.

1.5 University Library:

The university library, named Saraswati Library, is a multi-structured structure with a wonderful and perfect combination of beauty, advanced technology and eco-friendly building. The university library can accommodate 600 people. This building is undoubtedly a star of DCRUST, Murthal and is located in the heart of the university area. The university library also has a place dedicated to Deen Bandhu Chhotu Ram, the powerful ruler of Haryana, after whom the university is named. The library has a very rich collection of books, magazines, newspapers. To facilitate computerized check-in and check-out and to ensure that the shelves are not properly classified, books are bar-coded and labelled with machine-generated spine tags. Members receive bar-coded ID cards. The University Library has institutional members from TERI, New Delhi, Institution of Engineers, Kolkata and Current Science Association, Bangalore. For accessing documents, databases and online reading materials, the university library has 40 workstations serving e-resources in the digital library.

TABLE 1  
LIBRARY COLLECTION OF DCRUST (PRINTED)

| Documents (Printed)  | Total Collection | Documents (Printed) |
|----------------------|------------------|---------------------|
| Printed Books        | 85042            | Printed Books       |
| Printed Journals     | 165              | Printed Journals    |
| Bound Volume         | 3500             | Bound Volume        |
| Theses/Dissertations | 405              |                     |
| Magazines            | 4264             |                     |
| Newspapers           | 18               |                     |

TABLE 2  
LIBRARY COLLECTION OF DCRUST (ELECTRONIC)

| ICT Based e-Resources   | Total Collection |
|-------------------------|------------------|
| e-Books                 | 11151            |
| e-Journals              | 17613            |
| CD/DVD                  | 7                |
| Video Lectures          | 84331            |
| Databases               | 5                |
| Virtual Lab Experiments | 142              |

TABLE 3  
RESOURCES (SUBSCRIPTION & ESS BASED)

| ICT Based e-Resources  | No. of Journals | Website   |
|--|-----------------|---|
| ASME (American Society of Mechanical Engineers)                    | 29              | <a href="http://asmedigitalcollection.asme.org">http://asmedigitalcollection.asme.org</a> |
| IEEE/IEL Online Journals   | 2308+           | <a href="http://ieeexplore.ieee.org">http://ieeexplore.ieee.org</a>                       |
| Science Direct (Elsevier) Engineering, Material Science & Chemical | 511             | <a href="http://www.sciencedirect.com">http://www.sciencedirect.com</a>                   |
| EBSCO (Art & Architecture Complete)                                | 355             | <a href="https://search.ebscohost.com">https://search.ebscohost.com</a>                   |
| EMERALD  | 138             | <a href="http://www.emeraldinsight.com">www.emeraldinsight.com</a>                        |
| EBSCO (Business Source Elite)                                      | 1067            | <a href="https://search.ebscohost.com">https://search.ebscohost.com</a>                   |
| Royal Society of Chemistry (RSC)                                   | 49              | <a href="http://www.pubs.rsc.org">www.pubs.rsc.org</a>                                    |
| ProwessIQ (CMIE)   | Database        | <a href="https://prowessiq.cmie.com">https://prowessiq.cmie.com</a>                       |

|                                |    |   |
|--------------------------------|----|---|
| American Chemical Society      | 49 | <a href="http://pubs.acs.org">http://pubs.acs.org</a>         |
| American Institutes of Physics | 19 | <a href="http://journals.aip.org">http://journals.aip.org</a> |

## 1.6 Library Automation

DCRUST University Library, Murthal has been using KOHA software for its management activities since 2018. Most of the activities are automated. Users can access library books and other reading materials using the Online Public Access Catalogue (OPAC) web at URL [opac.dcrustlibrary.com](http://opac.dcrustlibrary.com). There are many search parameters for searching documents, classified according to the DDC scheme. The library uses various modules of KOHA software for management activities to facilitate the academic community of the university.

## 1.7 ICT Infrastructure:

The university's library is equipped with the latest infrastructure and technology. The library has web servers, desktops, computers and laptops to access various library resources and services. The library is also equipped with an uninterruptible power supply (UPS), generator, LED screen, CCTV, e-book reader, scanner, printer, thermal printer, photocopier and barcode reader. The library plans to use RFID technology to automatically register and check out reading materials.

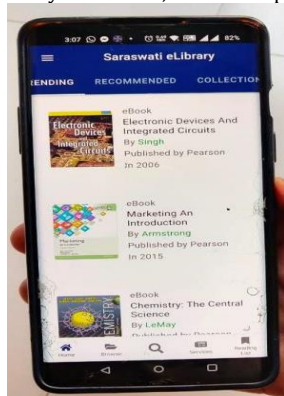
## 1.8 ICT based Library Services:

The University Library provides its patrons with ICT based resources and services to help them remain updated in their field of study and research. The following electronic information services are currently available:

1. Web-OPAC through Koha
2. Access of e-resource through online using many consortium
3. Current Awareness Service
4. E-mail Assistance Service
5. Online Reference Service
6. E-Document Delivery Service
7. Online Reservation of Reading Material
8. The anti-plagiarism software DrillBit is using for checking the plagiarism.
9. University Library signed an agreement with INFLIBNET to submit e-theses and synopses to Shodhganga for global access.
10. Newspaper Clipping Services

## 1.9 Accessibility of Data through android phone

University library has been subscribing the digital library service using the third party android App with help of Refread which is integration of the subscribed journal link. Users can download the Saraswati e-Library application from the play store. Subsequently, the icon will appear on the mobile screen. The administrator supplies the credentials to the registered users, enabling them to access information on the platform via the mobile application. The screenshot displays the search functionality for e-books and various other electronic resources accessible via the mobile application of the Saraswati e-library at DCRUST, Murthal as per below image.



## 2.0 CONCLUSION

In conclusion, the evaluation of ICT-based resources and services at DCRUST University Library, Murthal, highlights both strengths and areas needing improvement. While the integration of digital tools has significantly enhanced access to information and academic resources, user feedback indicates that there are opportunities to refine system interfaces, streamline navigation, and provide additional support. Addressing these issues will improve overall user satisfaction and effectiveness, ensuring that the library's digital offerings are more aligned with the needs of its academic community. Continuous assessment and iterative enhancements will be key to maintaining a high standard of application and supporting the evolving demands of students and faculty.

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