

The Role of Information Technology in Arts and Science College Libraries

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P. Arul Jothi

Librarian, Krishna International School, Ramanathapuram, Tamil Nadu, India

<https://orcid.org/0009-0005-0613-3650>

Abstract

The integration of Information Technology (IT) has significantly enhanced the operational efficiency and user experience of Arts and Science college libraries. This study analyzes the implementation of various IT tools such as cloud computing, digital catalogs, and Integrated Library Management Systems (ILMS) across ten institutions affiliated with Alagappa University. With a response rate of 80.5% from 200 distributed questionnaires, findings indicate that 100% of respondents use mobile phones, internet, and WhatsApp for library interactions. Additionally, over 90% of institutions employ digital resources like e-journals and e-consortiums. The study contributes to existing literature by providing empirical data on IT usage in regional academic libraries and highlighting practical challenges, such as infrastructure limitations and training needs. These insights offer a comparative perspective on digital adoption trends and emphasize the need for strategic investment to fully realize the benefits of IT in academic settings.

Keywords: Digital Resources, Information Technology, Arts and Science Libraries, Library Management Systems, User Experience, Academic Libraries, IT Integration

Introduction

Information technology (IT) is becoming a vital instrument for improving the effectiveness and usability of services in college libraries for the arts and sciences. IT has greatly enhanced library operations by facilitating the development and administration of databases and making them accessible via network systems. Libraries can now provide more efficient and user-focused services to meet the various demands of researchers, faculty, and students thanks to this technology integration. Book procurement, circulation, administrative administration, and information services are just a few of the many library operations that are interconnected and cooperate to keep the library running smoothly.

It is now possible to store and retrieve vast amounts of data at remarkably fast speeds thanks to modern technologies. New possibilities for information storage, access, and use have been made possible by the development of information technology. Libraries and information centers are now more better managed because to the extensive use of computers in library operations. Cataloging, user access, and resource management are just a few of the essential library tasks that have been transformed by computer-based systems. Four major categories can be used to group the technologies and tools necessary for modern library systems are Technology of computers, Technology of communication, Technology for Reprography and Technology for printing.

a) Technology of computers, including hardware and software Cloud computing, machine learning, virtualization, the Internet of Things (IoT), database management, artificial intelligence (AI), and quantum computing

b) Technology for Communication Satellite Communication, Wireless Communication, VoIP (Voice over Internet Protocol), Networking, Wi-Fi, 5G Technology.

c) Digital printing, photocopying, scanning, digital imaging, blueprinting, document duplication, and reprographic technology.

d) Technology for Printing Offset printing, digital printing, 3D printing, screen printing, gravure printing, typography, sublimation printing, and UV printing.

Information and Communication Technologies (ICTs) have a noticeable impact on the libraries of Arts and Science colleges. The lower prices of both software and hardware, as well as their simple access to the market, have made ICTs more widely available. Libraries may now provide more sophisticated services to satisfy the expanding needs of their patrons thanks to the assistance of vendors and suppliers.

Librarians now play more dynamic and integrated roles that go beyond their conventional responsibilities as technology continues to develop. Libraries encounter new demands and challenges in the quickly evolving world of today. Around the world, a large number of libraries are moving away from conventional systems and toward a more multifaceted strategy. Professionals in library and information science (LIS) are now required to be flexible in their duties and adjust to the many demands of contemporary libraries as a result of this change.

In order to successfully navigate legal challenges pertaining to copyright laws, intellectual property rights, and other legal considerations, LIS specialists are essential. Through a variety of promotional initiatives, they promote the value of library resources while simultaneously making ensuring that libraries adhere to national and international regulations. These initiatives are essential for emphasizing the value of libraries for both academic achievement and the larger educational ecology.

Information technology has significantly increased access to a variety of resources, including as books, journals, research papers, and multimedia content, in the libraries of Arts and Science colleges. IT makes it possible to save, retrieve, distribute, and share a variety of materials, creating an atmosphere in which teachers and students may work together and use the resources at their disposal. In addition to guaranteeing improved information access,

this technological integration enhances the entire academic experience for all participants.

Communicates the value of library services to decision makers, staff, and users. Serves as a mediator between information users/seekers and information resources or providers.

Active listening skills are demonstrated with customers and co-workers. Clear and courteous communication is maintained. Negotiate with publishers, customers, managers, and vendors in an effective manner.

Review of Literature

(Mawere and Sai) carried out a study intending to investigate the adoption and usage of e-resources by the 576 students of Great Zimbabwe University. The study used a survey method and a questionnaire was designed to collect the data from the respondents. It can be revealed from the results that the respondents were facing some problems while accessing the e-resources, and poor Internet connectivity and limited Wi-Fi access were the major hindrances in the utilization of e-resources.

(Odongo) analyzed the ICT adoption in Kenyan academic libraries and indicated that libraries are computerized with a 77.0% response rate, 97.0% indicated the LAN facility, and 100.0% of the respondents indicated the availability of library website. 83.0% of the respondents found e-resources ease to access and availability of current information. The results further revealed that the cost of computer hardware or ICT with a 30.0% response rate is the major constraint in the adoption of ICT at libraries.

(Singh and Nazim) described that Information technology is currently taking center stage and transformed the whole world into a global village with a global economy, which is increasingly dependent on the creative management and distribution of information. The enormous advantages it has in easing the delivery of information around the world. The paper examines the influence of information technology and role of libraries in the age of knowledge and information societies. It also focuses the problems faced by the Library & Information Service (LIS) sector in our country and achievements over the years using new information technologies.

(Thanuskodi) performed a study to evaluate the usage of Internet and e-resources and results depict High wire Press and Pub Med were the most preferred e-resources databases among the respondents. The respondents further indicated that they faced problems while accessing e-resources like lack of IT knowledge, wastage of time, lack of time, slow accessibility, and information overload.

Objectives of the Study

The primary objective of the present study is to examine the “The Role of Information Technology in Arts and Science College Libraries “

Library services imparting professional education the specific objectives are:

- To analyze the impact of Information Technology (IT) on the operational efficiency of Arts and Science College Libraries.
- To investigate the benefit of IT to the librarian and library users.
- To identify the benefits of Information Technology in enhancing access to academic resources for students and faculty.
- To examine the available technologies in the selected libraries.
- To identify the specific problems that are being faced by the library professionals in the application of IT for information service.

Methodology

The study is based on the Primary data collected from the selected Arts and Science College Libraries. A Structured questionnaire was designed based on ICT applications the questionnaire was divided into seven major applications of ICT Tools. E-group, e-mail, fax, Internet, Intranet, Mobile Phone, Video Conference, 200 questionnaire was distributed among various Arts and Science College Libraries out of which 161 were respondent (80.5%).

Types of Data Collected

Both primary and secondary data were collected for the present research. Primary data have been collected from the users of Arts and Science colleges and Arts and Science college libraries. The Secondary data were collected from the web sites and Prospectus of institutions, Research journals.

Data Analysis

The study was carried out in ten Arts and Science colleges Libraries, the information to these respondents is shown in table 1.

Table 1 The information from the Respondents of Ten Arts and Science Colleges (Affiliated with Alagappa University, Karaikudi, Tamil Nadu)

| Name of the College | No. of Respondents | % |
|--|--------------------|------|
| Velumanoharan Arts and Science College For Women | 18 | 11.2 |
| Syed Ammal Arts and Science College | 19 | 11.8 |
| Thassim Beevi Abdul Kader College for Wome | 14 | 8.7 |
| Syed Hameetha Arts and Science College | 15 | 9.3 |
| Caussanel College of Arts and Science, Muthuppettai | 16 | 9.9 |
| Raja College of Arts and Science | 15 | 9.3 |
| Annai Scholastica Arts and Science College For Women | 16 | 9.9 |
| Mohamed Sathak Hamid College of Arts and Science for Women | 17 | 10.6 |
| Puratchi Thalaivar Dr.M.G.R Arts and Science College for Women | 18 | 11.2 |
| Thiagi Tharmakkan Amirtham College of Arts and Science | 13 | 8.1 |
| | 161 | 100 |

Source: Primary Data

Major applications of ICT Tools, such as Internet, Facebook, e-mail, Video Conference, WhatsApp, E-group, Fax, Mobile Phone, Cloud Computing, Telegram. Were identified for this study and same is shown in table 2. The table and the figure shows all the respondent uses all the facilities but the highest is mobile phone with (100%), Internet with (100%), WhatsApp with (100%), e-mail (93.17%), The use of Mobile Phones is high due to its fast and easy way of communication.

Table 2 ICT Tools of Arts and Science College Libraries

| Name of the ICT Tool | The quantity of Responders | % | Rank |
|----------------------|----------------------------|-------|------|
| Internet | 161 | 100 | 1 |
| Facebook | 138 | 85.71 | 4 |
| E-mail | 150 | 93.17 | 2 |
| Video Conference | 95 | 59.01 | 5 |
| WhatsApp | 161 | 100 | 1 |
| E-group | 72 | 44.72 | 7 |
| Fax | 59 | 36.65 | 8 |
| Mobile Phone | 161 | 100 | 1 |
| Cloud Computing | 81 | 50.31 | 6 |
| Telegram | 148 | 91.93 | 3 |

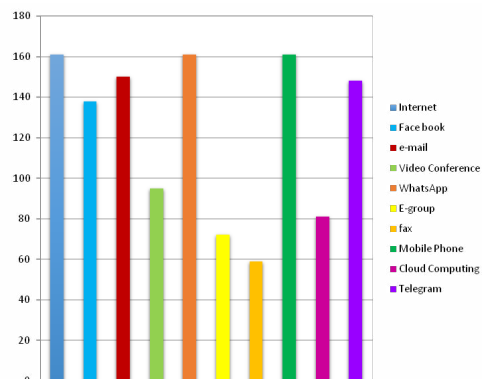


Figure 1 ICT Tools of Arts and Science College Libraries

Table 3 ICT facilities in the above Arts and Science Colleges

| Name of the College | Internet | e-Journal | E-Consortium | Library Management Software | CD ROM | Easy Proxy Facility |
|--|----------|-----------|--------------|-----------------------------|--------|---------------------|
| Velumanoharan Arts and Science College for Women | Yes | Yes | Yes | Yes | Yes | Yes |
| Syed Ammal Arts and Science College | Yes | Yes | Yes | Yes | Yes | Yes |
| Thassim Beevi Abdul Kader College for Women | Yes | Yes | Yes | Yes | Yes | Yes |
| Syed Hameetha Arts and Science College | Yes | Yes | Yes | Yes | Yes | Yes |
| Caussanel College of Arts and Science | Yes | Yes | Yes | Yes | Yes | Yes |
| Raja College of Arts and Science | Yes | Yes | Yes | Yes | Yes | Yes |
| Annai Scholastica Arts and Science College for Women | Yes | Yes | Yes | Yes | Yes | Yes |
| Mohamed Sathak Hamid College of Arts and Science for Women | Yes | Yes | Yes | Yes | Yes | Yes |
| Puratchi Thalaivar Dr.M.G.R Arts and Science College for Women | Yes | Yes | Yes | Yes | Yes | Yes |
| Thiagi Tharmakkan Amirtham College of Arts and Science | Yes | Yes | Yes | Yes | Yes | Yes |

From the table 3, all the 10 Arts and Science colleges are having high speed internet connection. All the above colleges having E-Consortium Facility which is provided by the with Alagappa University. The E-Consortium users are provided with user name and password by which they can access the e- consortium facility from their convenient house or college. The major drawback is all the Arts and Science colleges having library software for all the library activities like stock maintaining, book issue, and book return .

Suggestion

The following recommendation could be put into practice to offer ICT-based services at college libraries for the arts and sciences.

- Modernization of the information service system with IT facilities should be prioritized by management.
- It should set aside a sufficient amount of money for the library's development, particularly for automation and IT facilities.

- It should also increase the library's space and infrastructure and hire qualified personnel to deliver improved IT-based services.
- IT-based services should be required by the government and higher education authorities for both self-financed and privately assisted arts and science colleges.

Future Research Directions

- Compare IT integration in Arts and Science libraries with other disciplines, such as Engineering or Medical colleges, to evaluate sector specific challenges and opportunities.
- Explore the adoption of emerging technologies like Artificial Intelligence, chatbots, and data analytics for personalized library services.
- Conduct longitudinal studies tracking digital literacy growth among students and faculty post-IT implementation.

Conclusion

The study confirms that IT adoption in Arts and Science college libraries has led to improved access to academic resources, streamlined library operations, and increased user engagement. Quantitative findings underscore the widespread use of mobile and internet-based tools, with 100% of libraries offering digital services like e-consortium access and ILMS. However, to sustain and expand these benefits, challenges like inadequate infrastructure, limited budgets, and staff up skilling must be systematically addressed. This research contributes to the evolving understanding of ITs role in academic libraries by offering a region specific perspective that can inform broader national or global initiatives.

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Author Details

P. Arul Jothi, Librarian, Krishna International School, Ramanathapuram, Tamil Nadu, India,
Email ID: aruljothi.lib@gmail.com