

## Application of information and communication technology in circulation operations in selected technological college libraries in charotar region of Gujarat: A study

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### Abstracts

The explosion of information and the technology of information are increasing day by day, and so it is essential to develop the appropriate information infrastructure and organize the library and information centers in such a way that the organization must satisfy the relevant needs of the information society of tomorrow. In this paper authors tried to provide the information regarding library activity of Charotar region. Because the father of Gujarat library activity Sh. Motibhai Amin was belongs to this region and the first library activity was started from this holey place. Because of the blessing this area is safe from natural calamities such as flood and drought Anand is the administrative hub of Charotar region. Vallabh Vidyanagar, Changa plays the role of education city and Umreth, Vadtal, Nadiad are religious city. So many technological institutions are available in this region who are providing quality education and produced well known engineers to our society.

**Keywords:** ICT application, Charotar, Circulation Operations in libraries.

### Introduction

In the present information era, information is being treated as the most important resource in addition to the most traditional resources, namely man, machine, money, material and time. The invention of computers and telecommunication technologies are the landmarks in the history of LIS. The advancement of information technology such as the CD-ROMs, multimedia, computer networks, internet etc. have changed the society and also posed a challenge to the information system professionals to meet the increasing demand for information of the twenty-first century end users.

Modern libraries are complex systems that consist of many procedures and functions. Integrated Library Systems (ILS) have been part of libraries quite few years back. The core functionality of the traditional ILS has not changed much. Traditionally, these functions (subsystems) included acquisition of materials, cataloging and classification, circulation and inter library loan, serials management, and reference services.

An attempt is made in this chapter to delineate the functions, features, services and management aspects carried out in integrated library software. The automated operations considered in this study, viz., acquisition, catalog, circulation, serials control, OPAC, Services and Administration. Each process involves a number of automated functions which are briefly described. These explanations convey the significance and meaning of the functions involved in each of these operations. These explanations hold good for the remaining part of the thesis. Most libraries have some of these items on their systems and may be other additional features, along with a variety of specifically local requirements. Usage of ICT in circulation operations are one of the important part of housekeeping operations of the library. The application of technology in circulation activities is also not a new phenomenon.

Libraries are adopting latest technology to manage the different form of information, its communication and increasing use by patrons.

This study is focused on selected technological college Libraries of CHAROTAR Region of Gujarat, India, Charotar region is the area between Vasad to Kheda in short the region between Mahi River to Vatrak River called Charotar Pradesh including: SVIT-Vasad, DJMIT, Mogar, BVM, V V Nagar, GSET, V V Nagar, CHARUSAT, Changa and DDIT, Nadiad. Out of these six technological colleges, 4 are affiliated with GTU, Ghandhinagar and two are affiliated with deemed University. All colleges are conducted UG and PG programs in most core areas of engineering education. Most colleges are 10 to 20 years old, so, good and experienced faculty members are providing quality education. All colleges have their own well developed library with qualified staff.

#### Statement of the Problem

ICT applications to technological college libraries operations of CHAROTAR region have yielded much positive results over the years. Circulation unit of college libraries is one area that ICTs have transformed operation. The rigorous processes that the librarians used to undergo in serving the users have been made easier by the use of Information Communication Technologies (ICTs). This has culminated into job effectiveness and thereby saving the time of the users.

Considering the benefit of Information Communication Technologies (ICTs) on the area of easy access and retrieval of information, it is important that adequate application of ICTs in circulation operations is given due attention in the university libraries. The scope to which technological college libraries of CHAROTAR region of Gujarat have implemented Information Communication Technologies in their circulation operations is unknown. It is equally

observed that no research or data has been carried out on this topic which vindicated the present study.

#### Objectives of the study

The main purpose of this study is to conclude the application of Information and Communication Technologies (ICT) in circulation operations in selected technological college libraries of CHAROTAR region of Gujarat. The following are the specific objectives of the study:

1. To identify the circulation operations performed with the use of Information and Communication Technology (ICT) facilities in the selected technological college libraries of CHAROTAR region of Gujarat
2. To identify the Information and Communication Technology devices used in circulation operations in technological college libraries of CHAROTAR region of Gujarat
3. To determine the extent of application of Information Communication Technologies in the circulation operations in the selected technological college libraries of CHAROTAR region of Gujarat.
4. To determine the constraints encountered in the application of ICT devices in the circulation operations in the selected technological college libraries of CHAROTAR region of Gujarat
5. To identify strategies for improving the application of Information and Communication Technologies (ICTs) in circulation operations in the selected technological college libraries of CHAROTAR region of Gujarat
6. To know the inhibiting factors against the usage of ICT resources in the selected technological college libraries of CHAROTAR region of Gujarat.

#### Research Questions

The study sought answers to the following questions

1. What are the circulation operations performed with the use of Information and Communication Technology

#### Discussion of Findings

**Table 1:** Which of the following circulation operations are performed in your library?

No	Circulation operations	Yes (%)	No (%)	Total (%) Positive
1	Provision of library Cards	6	0	100%
2	Renewing materials	5	1	83%
3	Charging materials	6	0	100%
4	Discharging materials	0	6	0%
5	Reserving materials	4	2	67%
6	Inter library loan service	3	3	50%
7	Registration of library users	6	0	100%
8	Daily users records	5	1	83%
9	Records of library resources	6	0	100%
10	SMS Alert service	2	4	33.33%
11	Surveillance of IRs CCTV	3	3	50%
12	Weeding out of IRs	3	3	50%
13	Circulation of Overdue notice	6	0	100%
14	Library Security devices	1	5	17%

(ICT) in the selected technological college libraries of CHAROTAR region of Gujarat?

2. In which of the circulation services are librarians skilled in the use of computer technologies?
3. What are the Information and Communication Technology devices used in circulation operations in the technological college libraries of CHAROTAR region of Gujarat ?
4. What is the extent of application of Information Communication Technologies in the circulation operations in the technological college libraries of CHAROTAR region of Gujarat ?
5. What are the levels of expertise of librarians in use of library application software packages for circulation services?
6. What are the constraints encountered in the application of ICT devices in the circulation operations in the technological college libraries of CHAROTAR region of Gujarat ?
7. What are the constraints that affect application of computer technologies to circulation services?
8. What are the strategies for improving the application of Information and Communication Technologies (ICTs) in circulation operations in the technological college libraries of CHAROTAR region of Gujarat?

#### Methodology

This study adopted descriptive survey research design. The area of the study is CHAROTAR Region, Central Gujarat zone. The population was 6 librarians of technological college libraries of CHAROTAR Region including SVIT-VASAD, DJMIT – Mogar, BVM – V V Nagar, GSET – V V Nagar, CHARUSAT – Changa, DDIT – Nadiad. No sampling was done considering the small size of the study population. The instruments used for data collection include questionnaires and observation checklist. Data collected were analyzed using mean (X), frequency counts and percentages (%), and Standard Deviation (SD).

Table 1 shows that most of the circulation operations are positively implemented in all technological college libraries of CHAROTA Region. One thing is shows that all six college libraries are doing their circulation operations both ways i.e. automated and manually also. More over all six college libraries are charging late fee for late return materials. Very less college libraries implemented security devices in their library, so, this is not good for security point of view.

**Table 2:** Availability of qualified experienced librarian

No	Particulars	Yes (%)	No (%)	Total (%) Positive
1	Qualified and Experience Librarian	4	2	67%

Table 2 shows that almost 67% (4) college libraries have qualified and experienced librarian which is good. Only two colleges, who are very new have not experienced librarian.

**Table 3:** Which ICT devices are using in the circulation operations by the college libraries?

No	ICT device being used	Yes (%)	No (%)	Total (%) Positive
1	Computers	6	0	100%
2	Scanner	6	0	100%
3	Printer	6	0	100%
4	Barcode scanner	5	1	83%
5	Xerox machine	6	0	100%
6	C D Rom technology	5	1	83%
7	Head phones	4	2	67%
8	Intercom	6	0	100%
9	Flash drive	4	2	67%
10	Internet	6	0	100%
11	External Hard disk	3	3	50%
12	Barcode printer	3	3	50%
13	DVD Player	4	2	67%
14	CCTV cameras	5	1	83%
15	Web camera	3	3	50%
16	Library management system	6	0	100%
17	Web mail	3	3	50%

Table 3 shows that main 7 types of ICT devices are using by all technological college libraries for circulation operations i.e. computers, scanner, printer, Xerox machine, Intercom, Internet connection and library management system. These all circulation devices are basic for smooth functioning of the library transactions and many more ICT devices are partially using by some libraries which is positive indications towards quality library services.

**Table 4:** In which area of circulation operations, ICT devices are applied.

No	Area of Circulations	Yes (%)	No (%)	Total (%) Positive
1	Library & Information resources records	6	0	100%
2	Charging of materials	6	0	100%
3	Provision of Library cards	5	1	83%
4	Registration of Library users	5	1	83%
5	Extension of mobile devices	3	3	50%
6	Shelving	4	2	67%
7	Library security device	2	4	33%
8	Reserving of library materials	3	3	50%
9	Surveillance of information resources	5	1	83%
10	Inter library Loan	3	3	50%

Data in table 4 shows of respondents on the extent of ICT applications in different circulation operations. The analysis of the data says that in two core area i.e. records of information resources and charging of materials, all 6 libraries are implementing ICT applications to provide better library services. In some areas of circulation operations i.e. Provision of Library cards, Registration of Library users and Surveillance of information resources, 5 libraries using ICT applications out of 6, which is good.

**Table 5:** Additional expertises available with Librarian

No	Particulars	Yes	No	Total (%) Positive
1	Knowledge of Library management system	5	1	83%
2	To operate scanner	4	2	67%
3	To communicate with clients	3	3	50%
4	Basic knowledge of computer	4	2	67%

Librarian should have some additional knowledge regarding computer, ICT applications, communication technique to carry the routine library activities. Table – 5 shows that 5 college librarians have the knowledge of library management software. Knowledge of ICT applications is also very essential for smooth functioning of library activities hence 4 librarians have knowledge of ICT applications out of 6.

**Table 6:** Constraints encountered in the applications of ICTs in circulation operations

No	Constraints encountered	Agree	Disagree	Total (%) Positive
1	Low ICT literacy of staff	2	4	33%
2	Lake of ICT infrastructure	4	2	67%
3	Continue power supply problem	4	2	67%
4	Poor maintenance of ICT resources	4	2	67%
5	High cost of ICTs	3	3	50%

Table 6 shows that during performing the circulation operations, so many constraints encountered. Lake of ICT infrastructure, continue power supply problem and Poor maintenance of ICT resources are the main issues 4 colleges are facing these issues out of 6.

**Table 7:** Strategies for enhancing the application of ICTs in circulation operations in library

No	Strategies to enhancing ICTs	Agree	Disagree	Total (%) Positive
1	Improvement of maintenance culture	6	0	100%
2	ICT training to circulation staff	5	1	83%
3	Waive tax on ICT resources to reduce high cost	6	6	100%
4	Provision of adequate ICT infrastructure	4	2	67%
5	Adequate fund should be allocated by Govt.	6	0	100%

Table 7 indicate that maximum utilization of ICT applications in circulation operations is very helpful to library users. So, improvement of maintenance culture,

## Conclusion

The following recommendations are made based on the findings of above mentioned study:

1. Library administrators in CHAROTAR Region of Gujarat should ensure that the available computer technologies in the technology college libraries are regularly serviced, maintained and inefficiently utilized for circulation services, so library stake holders can get the benefits of these services.
2. Looking to the data it is suggested that library authority in CHAROTAR Region of Gujarat should improve library security service and SMS alert service.
3. Library management should promote and sponsor librarians to strongly pursue continuous training through like seminars/workshops and other professional education courses on ICT in order to improve themselves and become appropriate in their profession.
4. Librarians should also be encouraged to look internal in increasing their own programs with the help of computer experts to suit the context of their everyday library services.

waive of tax on ICT resources and adequate fund should be allocated by Govt. are the main points to enhance circulation operations in the library. All six libraries are agreed on it.

5. Library authority should concentrate on the following constraints: irregular power supply, inadequate computer technology infrastructure and inadequate funding that hinder effective application of computer technologies to circulation services in university and research institute libraries.
6. Library authority should also consider the following strategies: training and retraining of library staff in the use of ICT devices, sufficient funding for computer technologies equipment and availability of computer technologies for circulation services in the technological college libraries of CHAROTAR Region..

Looking to the data gathered from the colleges it has been observed that application of ICT in circulation operations to circulation services in the technological college libraries of CHAROTAR Region are satisfactory compare to the other region of Gujarat. Overall the utilization of ICT application in circulation operations are properly implemented in this region, Hence, there should be a radical conversion from manual to electronic method to allow librarians improve the quality of circulation services.

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**Conflict of Interest**

None.

**References**

1. Gopal K, Digital Libraries in Electronic Information Era, Authorspress, New Delhi, 2005;53-65.
2. Krishan Gopal, Intellectual Freedom in Digital Libraries, Authorspress, New Delhi, 2005;225-240.
3. Kalimmal A, Role of ICTs in Library and Information Science, Authorspress, New Delhi, 2005;35-47.
4. IFLA School Library Guideline Draft 2014;9.
5. Australian Librarian Association. Future Learning and School Libraries. 2013;6-12.
6. Role of ICTs in Library and Information Science, Authorspress, New Delhi. 2005.
7. Malik, Khalid Mahmood. The Status of Library Automation in Pakistan. Library Review, 1994;45.
8. Moorthy, A L, and Karisidappa, C.R. Information Infrastructure and use of electronic media in Indian Libraries. 2001;148-62.

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