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**USE OF ICT TO ENHANCE QUALITY IN INFORMATION RESOURCE CENTRE IN  
HIGHER EDUCATION**

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**Abstract:**

An excellent learning system is vital for overall richness of a country. Integration of ICT helps to reduce the complexity and enhance the overall management and quality of higher education. Present study explores the extent of use of ICT in information resource center in higher education in the developing countries. The shift from print to digital information has a high collision on all mechanism of the academic information resource system especially for the users, services and staff in the institutes of higher learning. The study uses primary data collected from selected respondents of NAAC accredited institutes having affiliated to Mumbai University located in Navi Mumbai. The research explores the levels of mechanization in information resource centers, its usage, quality enhancement and challenges.

***Key words: Information, Resource Centre***

**Introduction:**

The electronic resource (ICT) has a system in which the information is stored by electronic means and made easy to get through electronic systems and computer networks, and these resources include Online- Databases, E-journals E-books, and Internet resources. The information resource centre in any institute of higher learning has an ease of access and location

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of library which determines the quality of inputs in the institutes of higher learning. Not only this but also the time spent by the Learners and faculty members in the library utilizing the library resources is important factor contributing towards the enhancement of their knowledge. The role of information resource centre is shifting from the custodian of traditional information resources to the provider of service-oriented digital information resources. Widespread use of computers, increased dependence on computer networks, rapid growth of the Internet and explosion in the quality and amount of information required libraries to adopt new means and methods for the storage, retrieval and dissemination of information.

In the olden days, going to the library was the easiest and most convenient way of doing research and learning. For easy retrieval of books or materials, a student who is doing a paper work would usually browse over the card catalog to get information about them. One can either give the details to the librarian or look for the materials in the library shelves. This method of learning and researching had been pursued by many through the years. However, with the advancement of ICT i.e. information and communications technology, learners and researchers started surfing the internet resources for endless information. The information accessed electronically is termed as e-library or electronic library. Unlike traditional libraries, e-libraries are not narrow by location or time. Libraries have changed with the appearance and function of ICT. They have understood the function of educators, teaching users to find, appraise, and use information both in the library and over electronic networks. As the use of e-library continues to rise, users are expected to develop information literacy skills. Information literacy is increasingly important. Academic libraries have responded by providing instruction in information literacy, described as "the ability to locate, manage, critically evaluate and use information for problem solving, research and decision making" (Orr, Appleton, and Wallin, 2001). The limits of the tradition library and the increasing popularity of IT have caused the use of the e-library to grow rapidly. The concept of quality is linked with assurance, development which focuses on checking and evaluation for a desired outcome, therefore ICT can also enhance the quality of students, faculties and the information resource centre of higher education.

There are different types of e-libraries for the diverse information needs of the targeted group of users. Some are developed by groups or organizations, higher education institutions, research centers, national libraries, as well as public libraries. They include contents that are born digital and those that have been digitized (Digital Library, 2007). An e-library generally contains books, journals, Open Access Catalogues, webliographies (equivalent to a printed bibliography), letters, maps, encyclopedias, still and moving images, sound recordings, indexes, conference/seminar proceedings, theses/dissertations, abstracts and reviews, and handbooks. Traditional libraries have limited storage space, but e-libraries require very little physical space, which reduces the cost of maintaining an e-library.

ICT has made a great impact in various sectors of society, especially in the institution of higher education, business and government. ICT has changed the traditional methods of library activities and services providing new dimensions for teaching, learning and research in higher educational institutions. With the help of ICT tools, it is possible to store, retrieve, disseminate and organize information by creating websites and databases. Information is now published both electronically and by print making it accessible to users according to their demands. It is important to assess the ICT applications in library and information centers in the context of changing user needs. Not to be left behind, the libraries of institutes of higher learning in India started moving from traditional to electronic form. Card catalogs were accessed via the Internet and research materials were converted to microfilms and compact disks for easy storage. Electronic reference materials, databases and other resources were downloaded from the Internet.

#### **Review of Literature:**

The term information resource centre is same as e-library or electronic library or digital library. It is synonymous to 'universal library or 'future library' or 'virtual library'. It is nothing but library without walls. It has been defined variously by different scholars and/or organizations, depending on their perception of the concept. According to Arms (2005) it is managed collection of information, with association, services, where the information is stored in digital formats and

accessible over a network. Mac Call, Cleveland, and Gibson (1999) define e-library as collections of electronic knowledge resources developed and maintained in order to meet the totality of information needs for a given user population. These two definitions recognize the need for the e-library to function over a network but the crucial part of the latter is that the information is managed. Like the traditional library, the e-library is also targeted towards a particular group of users in term of its information dissemination. E-library is also targeted towards a particular group of users in term of its information distribution.

Vespry and Kitiyadisai (1992) surveyed the application of information technology (IT) among academic libraries in Thailand .The survey shows that Librarians are generally aware of the role of IT in libraries and keen to automate their library services. It also shows that the speed of IT implementation in academic libraries depend to a large extent on administrator's support.

Sampath Kumar and Biradar (2010) observes the use of information communication technology in 31 college libraries in Karnataka, India by analyzing the ICT infrastructure, status of library automation, barriers to implementation of library automation and librarians' attitudes towards the use of ICT; Singh and Nazim (2008) discuss the impact of information technology and role of libraries in the age of knowledge and information societies.

The United Nations Development Programme (2001) refers to ICT as a “powerful enabler of development” because of the significant impact on the economic, scientific, academic, social, political, cultural and other aspects of life. In higher education and human capacity building, there are significant patterns of change because ICTs are impetus for change in traditional concepts of teaching and learning, as well as prime motivation behind the change in scholarly and professional activities.

### **Objectives of the Study**

1. To study the level of mechanization of information resource centre.
2. To study the usage of ICT to enhance the quality in higher education institutions.

3. To determine the challenges associated with the application and acquisition of ICT in the information resource centre.

**Hypothesis:**

H1: Use of ICT in the information resource centre of academic institutes has improved the academic outcome of learners and research output of faculty.

H0: Use of ICT in the information resource centre of academic institutes has not improved the academic outcome of learners and research output of faculty.

**Scope of the Study**

The study included a sample of four institutes with NAAC accreditation from which two institutes with 'A' grade and two institutes with 'B' grade of Arts Science and Commerce in Navi Mumbai affiliated to Mumbai University are taken for the study. The institutes are either accredited or reaccredited in last 5 years.

**Research Methodology:**

For arriving at the meaningful conclusion the study uses percentage analysis and comparative analysis methods. The analysis is conducted using Microsoft excel.

**Sampling Framework**

A representative sample of four institutes with NAAC accreditation of which two institutes with 'A' grade called A1 and A2 and two institutes with 'B' grade called B1 and B2 in the study. The institutes selected for the data collection are Arts Science and Commerce Colleges affiliated to Mumbai University from Navi Mumbai out of total 18 institutions. The data for the study is collected from the Self Study Reports submitted of these institutes and through online resources

**Data Collection**

As the study is empirical in nature, both primary as well as secondary sources of data collection shall be traced. Primary data is collected from the respondents i.e., librarian of the sample colleges, through structured questionnaire. Secondary data is collected from Self Study Reports submitted by these colleges, research papers, books, online publications reports, magazines, periodicals etc.

**Result and Discussion:**

**Table 1: Details of Students, Faculties and other details of information resource centre**

<b>Sr No</b>	<b>Particulars</b>	<b>Institute A1</b>	<b>Institute A2</b>	<b>Institute B1</b>	<b>Institute B2</b>
<b>1</b>	Number of Students	3600 plus	8500	3176	6018
<b>2</b>	Number of Faculty Members	78	160	68	65
<b>3</b>	Institute Library Timings	7:30 am to 6:00 pm	9:30 am to 6:00 pm	7:00 am - 6:00 pm	7:00 am - 6:00 pm
<b>4</b>	Website	√	√	√	√
<b>5</b>	Computerisation of library	√	√	√	√

Source: Analysis of the Questionnaire

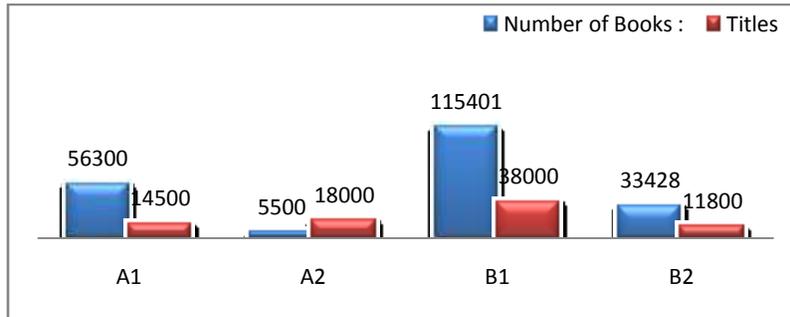
As shown in table 1 total number of students in institute A1 are 3600 plus, in institute A2 8500, in institute B1 3176 and in institute B2 it is 6018. Total number of faculty in institute A1 is 78, institute A2 is 160, institute B1 is 68 and in institute B2 is 65. The library timings in three institutes are from morning 7.00 am to 6:00 pm except one institute whose timings are from 9.30 am to 6.00 pm. All the four institutes are having their websites and their library is fully computerized.

Table 2 shows that the annual budget spent on the information resource centre by all three institutes is 10 lacs and 5 lacs to 6 lacs except one institute B2. Number of computers is also approximately 15 to 16 in the libraries. Library staffs are also 8 to 13 for the Library operation. The resource used in the library by the faculty and staff members are 90 to 100 % in institute A1 and A2, while in Institute B1 and B2 the utilisation is 70-80%. Softwares used are Libex, .Net, N-list, ICTs, MKCL (Maharashtra Knowledge Corporation Limited), Inflibnet, Soul2.0, Greenstore and D-space.

**Table 2:Utilisation of Resources in information resource centre**

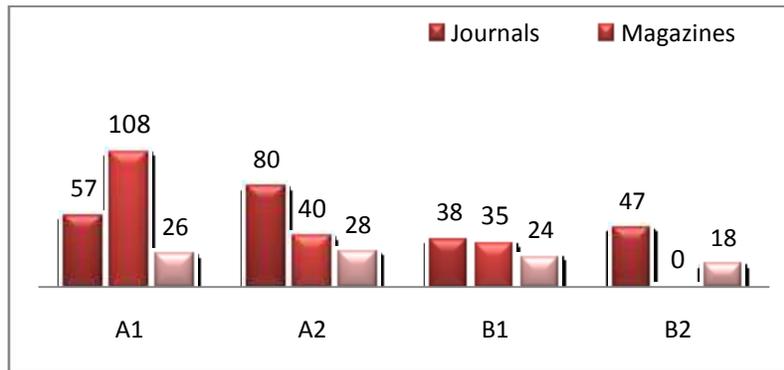
<b>Sr No</b>	<b>Particulars</b>	<b>Institute A1</b>	<b>Institute A2</b>	<b>Institute B1</b>	<b>Institute B2</b>
<b>1</b>	Annual Library Budget	Rs.10 Lacs	Rs.10 Lacs	Rs. 5 to 6 Lacs	Rs.10 Lacs
<b>2</b>	Number of Computers in Library	15	16	12	15
<b>3</b>	Institute of Library Staff	11	10	13	8
<b>4</b>	Utilization of Library Resources by Staff and students (%)	90 to 100%	90 to 100%	70 to 80%	70 to 80%
<b>5</b>	Softwares Used	Libex.Net, N-LIST ICTs	MKCL Library Software	IMKCL Library Software, Inflibnet	Soul 2.0,D- Space,Greenstore N-LIST,D-Space

Figure 1: Number of Books and Titles



As can be seen in figure 1 the number of books in Institute A1 are 56300 and in institute A2 are 5500. In institute B1 it is more as compared to other institutes which are 115401 and in institute B2 it is 33428. The total number of Titles in A1 institute is 14500 and in institute A2 is 18000. The title in B1 institute is more that is 38000 and in institute B2 is 11800.

Figure 2: Number of Journals and other resources



Above Figure 2 shows that the use of Journals are 57 in institute A1 and in institute A2 is more which is 80 as compared to the institutes B1 and B2 which is 38 and 47. Similarly magazines in A1 Colleges are the highest which is 100 and other institutes are less which is 40 and 35. But in institute B2 there are no Magazines which is '0.'

**Table 3: Use of Information and Communication Technology in Information Resource Centre**

<b>Sr No</b>	<b>Particulars</b>	<b>Institute A1</b>	<b>Institute A2</b>	<b>Institute B1</b>	<b>Institute B2</b>
<b>1</b>	Search Engine	√	√	√	√
<b>2</b>	Internet	√	√	√	√
<b>3</b>	Online Database	√	√	√	√
<b>4</b>	CD-ROM	√	√	√	√
<b>5</b>	USB Devices connectivity	√	√	√	√
<b>6</b>	Issue of Books	√	√	√	√

Table 3 the use of Information and communication Technology in information resource centre which is used by all the four institutes includes are search engine, internet, online database , CD-Rom, USB Devices Connectivity and issue of Books by the learners and the faculties.

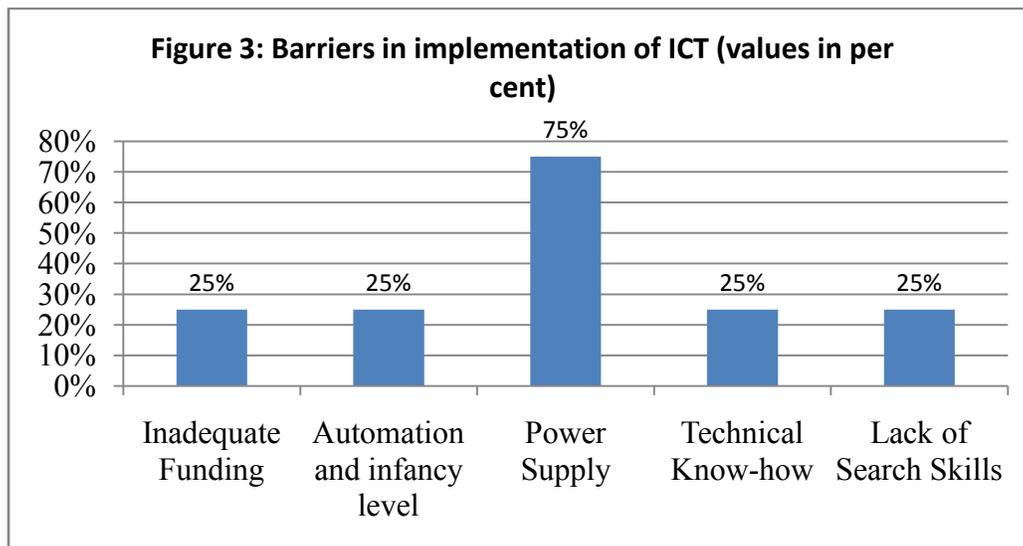
**Table 4: Effect of E-library pool of resources on Learners & Faculties**

<b>Sr No</b>	<b>Particulars</b>	<b>Improvement</b>
<b>1</b>	Reduce rush	25%
<b>2</b>	Ease of access anywhere anytime	25%
<b>3</b>	Improvement in student's academic performance	100%
<b>4</b>	Improvement in student's research	100%
<b>5</b>	Increased research output by the teachers	75%

Source: Author's Calculation

Table 4 shows the improvement in quality of E-resources on learners and faculties which has benefited on rush , access to library resources anywhere anytime in institute A1, it has also improved in students academic performance and research activities and teachers output in all four institutes except one institute A2 which has not improved on teachers output.

Figure 3 : Barriers in implementation of ICT in Library



Source: Author's Calculation

An analysis of the barriers in implementing in information and communication in information resource centre shows that institute B2 has a barrier in funding, automation and infancy level of these resources. It requires time to implement resources full fledged. Power supply, technical knowledge and searching skills are also the areas of concern in these institutes. Institute A1 has no such barriers. Except the institute A2 and B1 has a power supply barrier the other areas are not of great difficulty and can be easily overcome. Further the data as shown in figure 3, reveals power supply is the largest barrier in use of E-pool of resources in information resource centre.

### Conclusions and Suggestions:

Thus the study reveals that the use of e-pool of resource has also improved the quality of learners output that is their academic performance and the faculty research output therefore we reject the null hypothesis and it can be concluded that -

ICT has helped in improving the quality of academic results of learners and also in improving the research output of faculty of the institutes. The use of e- pool of resources is 90 to 100 % in 'A' grade institute and 70 to 80 % in 'B' grade institute. Use of Journals are 80% in 'A' grade institute whereas it is 47% in 'B' grade institutes. Similarly use of Magazines are 108% in 'A' grade institute and in 'B' grade institutes it is 37%. There is no barrier for the implementation of ICT related to funding, automation and infancy level, technical knowledge, online searching skills in 'A' grade institute whereas 'B' grade institute has the barriers in implementation for ICT.

Higher Institutes should join together and have a network of information resources by using software and connect to the information resource centre of other institutes so that there can be increased use of its resources. ICT training inputs for library staff needs improvement to improve the quality of the information resource centre. Use of Open Source software should be increased such as greenstore, eprints, Dspace. There should be free and open access, huge quality based internet facility and user friendly environment for the users for 24 hours. Adequate training should be given to Non teaching staff

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