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# **Impact of ICT based E-Resource Library Services to Users of Faculty and Researchers in Agricultural University Libraries of Gujarat State**

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**Abstract** - This research paper's main aim is to show a critical view of impact of ICT based e-resources library services to users of faculty and researchers in agricultural university libraries of Gujarat State. ICT has an integral part of all library operations and information services. ICT is a driving factor in the process of globalization. ICT has become one of the basic tools and core of modern society in general and educational activities. Developments in ICT have not only changed the way information is generated, organized, stored and distributed but more importantly have become an indispensable tool for teaching, learning and research. Users were asked to indicate its impact on their information seeking behaviour. Virtually all users are aware of its impact and found it beneficial. The developments of ICTs in general and particularly are on e-resources. Libraries, Librarians and users have to cope with the challenge and make use of the advantages brought about by ICT of Library Users.

**Keywords:** *ICT, IT, Information, Communication, ISB, Library Users.*

### **I. Introduction**

Impact of information and communication technologies on the evolution of global information societies, the gap between the rich and information poor are no longer based upon geographical lines. India has always been recognized for its significant contribution in the field of information science and now has leadership role in examining the challenges and opportunities on new information and communication technologies in information seeking society.

Information is recognized as an important resources and currency of 21<sup>st</sup> century, but ICT has revolutionized the information handling activities in the library and information centers during the past few years. The information society demands that all the relevant technologies that are involved in information, processing, consolidation, repackaging, communication and retrieval be merged so as to evolve an integrated system capable of providing diversified services.

ICT has the world becomes global village which has changing in to the national information infrastructure. Now communication technology have high revolutionaries in the field of library and information science they facilities collection, storage, organization, processing, presented communication and dissemination of information, data with the introduction of new technology. Library services are expected to user various types of technology to provide information more easily, effectively it reveals the Dr. S.R. Ranganathans fourth law of library science “To save the time of User/Reader”.

## **II. What are ICT?**

Information, Communication, Technology: ICT are the hardware and software that enable society to create, collect, consolidate and communicate information in multimedia formats and for various purposes.

### **Information:**

Information as a term has been derived from the Latin words Formation and Forma. This means giving shape to something and forming a pattern, respectively. Information adds something new to our awareness and removes the vagueness of our ideas. The society gets information of all knowledge divisions through Internet, recorded books, journals, audio- video, files, computer etc.

Generally speaking, “Information is that which is transmitted by the act or process of communication, it may be a message, a signal or a stimulus. It assumes a response in the receiving organism and therefore, possesses response potential.”

Information is seen as “Something constructed by human beings” (Dervin & Nilan, 1986).<sup>2</sup>

### **Definition of Information:-**

1. “Information means ideas; facts and imaginative works of mind have been communicated, recorded, published and or distributed formally and informally in any format”. (ALA Glossary of Library and Information Science (1983)).<sup>10</sup>
2. “Information is knowledge communicated concerning some particular fact, subject or event.” (Oxford English Dictionary (1989)).<sup>4</sup>

### **Communication:-**

A Computer system is like a component stereo system where you use cable to connect a tape, deck, and speakers to the main amplifier, in a computer the components. You plug in are called peripherals. These typically include devices such as printer, scanner, modem, keyboard, mouse, hard disk and C. D. Rom devices. To connect them, you plug their cables into sockets on

the computers called ports. Like seaports where ships enter and leave a city, ports are where information enters and leaves the computer. The number and type of ports on computer vary but they usually include serial parallel.

**Technology:-** Technology is an application of science especially to under trial of commercial objectives.

### **Information Technology:**

Information and Communication Technology (here after briefly regarded as IT) stands for applications of computer aided and electromagnetic media in transmission of information. IT includes computers, TVs and Internet Services. In the form of an equation IT can be expressed as:

$$\text{IT} = \text{Computers} + \text{Electronic Communication.}$$

According to ILA Glossary “IT is the application of the computers and other technologies to the acquisition, organization, storage, retrieval and dissemination of information.”

### **III. Aims of ICT to Library**

1. The main purpose of ICT in library means implementing of ICT equipments and tools information provide process as a media and methodology.
2. The purpose of ICT in library is generally to familiarize users with the use and working of computers and other electronic medium.
3. Today library using the term ICT to indicate their specializations in the process of information seeking.
4. Due to the application of ICT in library, users are taught to use different based software and how ICT can be used to solve problem regarding information. It is also a help to users to collect the data in short period to time. Also library use ICT to enhance qualities and quantity of information.

### **IV. Impact of ICT**

In the traditional type of service the students have had no choice but to accept what and how learning has been imparted in the classroom. The institution has also been traditional. ICT options have changed the perspectives. Now we have many options and choices to access the knowledge. Due to ICT we can get in information anytime and anyplace. ICT has the potency of expanding pool to teachers and student and reducing the cost of education. The ministry of human resource development has already launched the national mission on education through ICT at a large scale.

**ICT has affected and impacted the library services in many ways are following:**

1. Library Collection Development
2. Circulation
3. Reference and Information Services
4. Resources Sharing
5. E-journals
6. Periodical Control
7. Internet and CD-ROM facilities and Document supply
8. CAS and SDI Services
9. Telecommunication Technologies,
10. Telephone,
11. Audio-Video Services
12. Library Networks
13. Online retrieval services
14. OPAC etc.

In short ICT will help to remove barrier of distance, time and drudgery of repeated manual efforts in library routines. The advancement in technology will continue to improve upon the effectiveness of the libraries and is indispensable for handling message between libraries and library users.

#### **V. Application of ICT based Library Services**

In the context of library services are user of ICT application in library is the collection, storage, organization, retrieval and dissemination of information processes using the technological tools.

1. The application of ICT in library function and services makes library smooth, simple, speedy and effort proof. This ultimately will help users.
2. The library helps in educating a person and therefore a society. The enlightened society creates enlightened nation. Thus the application of ICT in library directly helps in creating a healthy nation.
3. Automation and mechanization of every function of the libraries.
4. Compact storage of information, easy accessibility and faster communication.
5. Automation library catalogue: increasing numbers of libraries are making their catalogue electronically available over the internet which may extend the use of library resources.
6. Document delivery services may be provided electronically using Internet technology.
7. E-mails allow users to send messages of files to each other.
8. Telnet or remote login-allowing users to log into remote sites.
9. FTP and HTTP allowing users to access and retrieve files at remote sites.
10. The www allows users to jump from one resource to another in easier way, without going through gopher style menus.

11. The open source initiatives: the open achieves, open source software, institutional and digital repositories.

**Data Analysis:**

**Table No. 1 Available of Computer Lab in AU Libraries of Gujarat State**

Computer Lab	No. of University Library	Percentage
Yes	4	100%
No	0	0
Total	4	100%

The table no 1 show that four (**1. Anand Agriculture University, 2. Junagadh Agriculture University, 3. Navsari Agriculture University, 4. Sardarkrushinagr Dantiwada Agriculture University**). Agricultural universities libraries has been computer lab available have out of 4 (100%) agricultural universities library is available in computer lab of agricultural university library users are yes.

**Table No. 2 Number of Computers Available in AU Library Users**

Name of Universities	No. of Computer in University Library User	Percentage
AAU	36	24%
JAU	32	21.05%
NAU	56	37%
SDAU	28	18.42%
Total Computer	152	100%

The table no 2 show that four (**1. Anand Agriculture University, 2. Junagadh Agriculture University, 3. Navsari Agriculture University, 4. Sardarkrushinagr Dantiwada Agriculture University**). Agricultural universities libraries has been no. of computer available in AU Library users use in out of 36 (24%) Anand Agricultural University library is available in computer library users use, 32 (21.05%) Junagadh Agricultural University library is available in computer library users use, 56 (37%) Navsari Agricultural University library is available in computer library user's use and 28 (18.42%) Agricultural University library is available in computer library user's use.

**Table No. 3 ICT based Library Service Provided in AU Libraries**

<b>Digital library</b>	<b>No. of University Library</b>	<b>Percentage</b>
Yes	4	100%
No	0	0
Total	4	100%

The table no 3 show that four (**1. Anand Agriculture University, 2. Junagadh Agriculture University, 3. Navsari Agriculture University, 4. Sardarkrushinagr Dantiwada Agriculture University**). Agricultural universities libraries are available in ICT based library services out of 4 (100%) AU Libraries are provided in digital library services have yes.

**Table No. 4 E-Database Subscriber in AU Libraries**

<b>E-Database you are Subscriber</b>	<b>No. of University Library</b>	<b>Percentage</b>
Yes	4	100%
No	0	0
Total	4	100%

The table no 4 show that four (**1. Anand Agriculture University, 2. Junagadh Agriculture University, 3. Navsari Agriculture University, 4. Sardarkrushinagr Dantiwada Agriculture University**). Agricultural universities libraries are provided in E-database services out of 4 (100%) AU libraries have been provided in e-database services in yes.

**Table No. 5 E-Resources database in AU Libraries**

<b>E-Resources</b>	<b>AAU</b>	<b>JAU</b>	<b>NAU</b>	<b>SDAU</b>	<b>Total</b>	<b>Percentage</b>
J-GATE	1	1	1	1	4	12.50%
IBID	1	1	1	1	4	12.50%
CMIE Economic Outlook	1	1	1	1	4	12.50%
CAB Abstract	1	1	1	1	4	12.50%
VET Abstract	1	1	1	1	4	12.50%
AGRIS	1	1	1	1	4	12.50%
AGRICOLA	1	1	1	1	4	12.50%
CeRA	1	1	1	1	4	12.50%
Total	8	8	8	8	32	100.00%

The table no 5 show that four (1. Anand Agriculture University, 2. Junagadh Agriculture University, 3. Navsari Agriculture University, 4. Sardarkrushinagr Dantiwada Agriculture University). Agricultural universities libraries are available in e-resources database out of 4 (12.50%) AU Libraries use of J-GATE e-resources database provided, 4 (12.50%) AU Libraries use of IBID e-resources database provided, 4 (12.50%) AU Libraries use of CMIE Economics Outlook e-resources database provided, 4 (12.50%) AU Libraries use of CAB Abstract e-resources database provided, 4 (12.50%) AU Libraries use of VET Abstract e-resources database provided, 4 (12.50%) AU Libraries use of AGRIS e-resources database provided, 4 (12.50%) AU Libraries use of AGRICOLA e-resources database provided, and 4 (12.50%) AU Libraries use of J-GATE e-resources database provided in Agricultural University libraries in Gujarat State.

**Table No. 6 ICT based E-Resources Collection in AU Libraries of Gujarat State**

Digital Collection	No. of Collection AAU	No. of Collection JAU	No. of Collection NAU	No. of Collection SDAU	Total Collection	%
E- Books	412	365	375	348	1500	47.73%
E- Journals	8	6	4	6	24	0.76%
E- Reports	18	10	15	12	55	1.75%
E- Database	10	8	5	8	31	0.99%
E- Theses	30	18	20	15	83	2.64%
E-Content pages	0	0	0	0	0	0
E- Clippings	0	0	0	0	0	0
CD-ROM Titles	425	325	475	225	1450	46.13%
Others	0	0	0	0	0	0
<b>Total</b>	<b>903</b>	<b>732</b>	<b>894</b>	<b>614</b>	<b>3143</b>	<b>100.00%</b>

The table no 6 show that four (1. Anand Agriculture University, 2. Junagadh Agriculture University, 3. Navsari Agriculture University, 4. Sardarkrushinagr Dantiwada Agriculture University). Agricultural universities libraries are available in ICT based E-resource collection has been out of 1500 (47.73%) AU Libraries are available in e-resource collections of e-books, 24 (0.76%) AU Libraries are available in e-resource collections of e-journals, 55 (1.75%) AU Libraries are available in e-resource collections of e-reports, 31 (0.99%) AU Libraries are available in e-resource collections of e-database, 83 (2.64%) AU Libraries are available in e-resource collections of e-Theses and 1450 (46.13%) AU Libraries are available in e-resource collections of CD-ROMs etc. ICT based e-resources databases are available in Agricultural University libraries in Gujarat State.

**Table No. 7 Use of E-Resource Database Categories wais Users in AU Libraries**

Categories of users	Changes to be accessed directly by Users	Paid when Through Library	Total Users	Percentage
UG / PG students	2878	5750	8628	78.82%
Research Scholars	84	479	563	5.14%
Faculty Members	114	675	789	7.21%
Outsiders	121	490	611	5.58%
Any other Pl. specify	55	300	355	3.24%
Total Users	3252	7694	10946	100.00%
<b>Percentage</b>	<b>29.71%</b>	<b>70.29%</b>	<b>0</b>	<b>100%</b>



The table no 7 show that four (1. **Anand Agriculture University**, 2. **Junagadh Agriculture University**, 3. **Navsari Agriculture University**, 4. **Sardarkrushinagr Dantiwada Agriculture University**). Agricultural universities libraries has been out of 8628 (78.82%) AU libraries have been use of e-resource database deviated by categories of UG / PG Students, 563 (5.14%) AU libraries have been use of e-resource database deviated by categories of research scholars, 789 (5.21%) AU libraries have been use of e-resource database deviated by categories of Faculty members, 611 (5.58%) AU libraries have been use of e-resource database deviated by categories of Outsiders, 355 (3.24%) AU libraries have been use of e-resource database deviated by categories any other Pl. Specify.

Table no. 7 show that out of 3252 (29.71%) AU libraries have been use of e-resource database deviated by categories wais changes to be accessed directly by users, 7694 (70.29%) AU libraries have been use of e-resource database deviated by categories wais paid when through library users in Agricultural University libraries of Gujarat State.

**Table No. 8 ICT based E-Resource Library Services in AU Libraries of Gujarat State**

ICT based Library Services	No. of University Library	Percentage
Computer	4	14.29%
Fax	4	14.28%
Mobile	4	14.28%
E-mail	4	14.29%
Internet	4	14.29%
On-line	4	14.29%
CD-ROM	4	14.28%
Others	0	0
Total	28	100.00%

The table no 8 show that four (1. Anand Agriculture University, 2. Junagadh Agriculture University, 3. Navsari Agriculture University, 4. Sardarkrushinagr Dantiwada Agriculture University). Agricultural universities libraries has been out of 4 (14.29%) Agricultural University libraries have provided in information technology services is use of computer service, 4 (12.28%) Agricultural university libraries have provided in Information technology services is fax service, 4 (14.28%) Agricultural university libraries have provided in information technology services is mobile service, 4 (14.29%) Agricultural university libraries have provided in information technology services is e-mail service, 4 (14.29%) Agricultural university libraries have provided in information technology services is internet service, 4 (14.29%) Agricultural university libraries have provided in information technology services is on-line service and 4 (14.28%) Agricultural University libraries have provided in information technology services is CD-ROM service, etc. information technology services provided in AU libraries of Gujarat State.

**Table No. 9 Reprographic Service provided in AU Libraries**

<b>Reprographic Service Provided in AU Libraries</b>	<b>No. of University Library</b>	<b>Percentage</b>
Yes	4	100%
No	0	0
Total	4	100%

The table no 9 show that four (**1. Anand Agriculture University, 2. Junagadh Agriculture University, 3. Navsari Agriculture University, 4. Sardarkrushinagr Dantiwada Agriculture University**). Agricultural universities libraries has been out Of 4 (100%) Agricultural university libraries users provided in reprographic service is yes.

**Table No. 10 Other Library Services**

<b>Other library Services</b>	<b>No. of Researchers</b>	<b>Percentage</b>
Library Services	78	76.48%
Inter-library Loans	10	9.80%
Internet	14	13.72%
<b>Total</b>	<b>102</b>	<b>100.00%</b>

The table no. 10 show that 78 (76.48%) researchers has been provided the other library services in agricultural university libraries researchers, 10 (9.80%) researchers has been provided the other services in inter-library loans services, and 14 (13.72%) researchers has been internet services provided in agricultural university libraries of Gujarat State.

## **VI. Suggestion**

### **ICT based E-resource Library Services Provided in Agricultural University Libraries Users:**

1. CD-ROM Searching database provides for online access services to library users.
2. On-line networking service access to databases would help get newly published information to library users.
3. Photocopying service is most of the research libraries have reprographic machines and provide photocopy of any document on demand of library users.
4. On-line information services are anticipatory or responsive of library users.
5. News clipping scanning service to online newspaper services and some are organization do this by their library.
6. On-line reservation service must be provided in all library users.

7. Database searching service.
8. Audio-Visual service.
9. Internet Access service
10. E-query Services.
11. RFID Technology service.
12. Global Mobile Service (GMS)
13. Various Security Equipments.
14. OPAC service
15. Providing access to internet and internet based services.
16. Providing access to web based resources.

#### **The Functions of Modern Agricultural University Library User**

1. Application of wide range of new relevant technologies in Agricultural university Library users.
2. Computerization and networking of all Agricultural University Libraries operations, resources and services in users.
3. Build appropriate combination of both print and electronic information resources.
4. Providing a gateway access to the content of local and global resources and services from users' offices and homes.
5. Providing guidance and training in the usage of digital resources.
6. Provide responsive products and services to meet the user needs and expectations.

#### **VII. Conclusion**

ICT is not only a technology but also it manage with the library objectives with the adoption of ICT, Library can face the new and modern information techniques. ICT play an important role in enhancing efficiency in development of library service. The central role of the library profession remains the same, but methods and tools for information storage and retrieval continue to grow and change dramatically. Libraries must understand information seeking behaviour of users to re-engineer their services and provide information efficiently. The result of this study reveal users who are more or less satisfied with library collections and services, but to train in the use of online information. Although document delivery service is being provided on demand, the researchers pointed out that it would be worthwhile if the library could provide them

with indexing, abstracting and interlibrary loan service as well. User's education about library using is must and should be carrying out as a seminar or workshop training.

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