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# PERSPECTIVES OF LIS PROFESSIONALS ON INFORMATION AND COMMUNICATION TECHNOLOGIES (ICTs)

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## ABSTRACT

*Examines the level of knowledge on ICT tools, resources used to develop ICT skills/knowledge, and attitudes of LIS professionals towards ICT. The data was collected from 162 library professionals working in engineering institutions in and around Chennai. Found that majority of LIS professionals had fair knowledge expert on ICT tools; they used various resources to develop their knowledge on ICT. States that the LIS professionals have positive attitude on Information and Communication Technologies (ICTs).*

**KEYWORDS:** ICT, ICT Tools, e-Resources, Library Services, LIS Professionals

## Introduction

Advances in technology have changed virtually every aspect of human lives. These changes have dramatically impacted how we can communicate, manage information, use time, and complete simple and complex daily tasks. The technology is reforming how information is accessed and processed. The libraries have also undergone considerable change in the past decade. The computer has become an important tool for accessing information. The application of information and communication technologies (ICTs) has changed the perception, management,

and dissemination of information. The ICT provides libraries with capabilities for the location of information, storage and dissemination of information.

### **Information and Communication Technology (ICT)**

Information and Communication Technology (ICT) is a diverse of technological tools and resources used to create, disseminate, store and manage information. Information and Communication Technology (ICT) refers to technology that transmits, stores, creates, displays, shares, or exchanges information by electronic means. The libraries and librarians must adopt ICT to be a successful part of the information environment (Ungern-Stran and Lindquist, 1995).

Hamelink (1997) defined as ICTs are those technologies that enable the handling of information and facilitate different forms of communication. These include capturing technologies (e.g. camcorders), storage technologies (e.g. CD-ROMs), processing technologies (e.g. application software), communication technologies (e.g. LAN), and display technologies (e.g. computer monitors).

### **Review of Literature**

Dhanavandan & et.al. (2008) indicated that majority of librarians use internet and mobile phone for communication and further found that ICT tools play a significant role in supporting and enhancing professional and research activities. Asemi (2005) reported that Internet tool was used by the respondents for downloading software or text, chatting, E-mail services, and for finding related references. Patil (2010) investigated that the users were used a variety of ICT products and services for research. He further found that ICT helps the users to find, access, manage, integrate evaluate, create, and communicate information easily. Rajalakshmi (2005) outlined the skills required by the LIS professionals in the 21<sup>st</sup> century in the context of ICT implications. Ramesh Babu, Vinayagamoorthy, and Gopalakrishnan (2007) highlighted the level of ICT skills possessed by librarians. Adekunle, Omoba, and Tella (2007) found that majority of librarians have positive attitudes towards implementation of ICT. Spacey and others (2003) found that the positive attitudes among the library professionals are fundamental in implementing new technologies in the public libraries in UK. Shibanda (2001) stated that information managers, especially academic librarians, must build on the positive aspects of information era.

## **Objectives of the Study**

The three objectives which have been taken for research study are:

1. To identify the level of knowledge on ICT tools among LIS professionals working in engineering institutions.
2. To identify the resources used by the LIS professionals to update ICT knowledge
3. To find out the attitudes of LIS professionals towards ICT.

## **Methodology of the Study**

A survey method based on structured questionnaire was used to collect the data for this study. The questionnaire was divided into four sections like personal information, level of knowledge on ICT tools, the resources used to update ICT knowledge and attitudes of LIS professionals towards ICT. The questionnaire was administered directly to the LIS professionals working in engineering institutions in and around Chennai. The data was collected in person and some of them were received by postal. A total of 195 questionnaire was distributed and 162(83%) filled in questionnaire was received back. The data collected through questionnaire was analyzed using SPSS.

## **Summary of the Results**

### **Distribution of Respondents by Designation and Gender**

The respondents were asked to indicate their designations. It was found that the majority of respondents were librarians 78 (48.1%) and remaining were Assistant Librarians 51 (31.5%) and Library Assistants 33(20.4%). The respondents were also asked to indicate their gender. The majority of respondents were male 102(63%), 60 (37%) of respondents were female.

### **Level of Knowledge on ICT Tools**

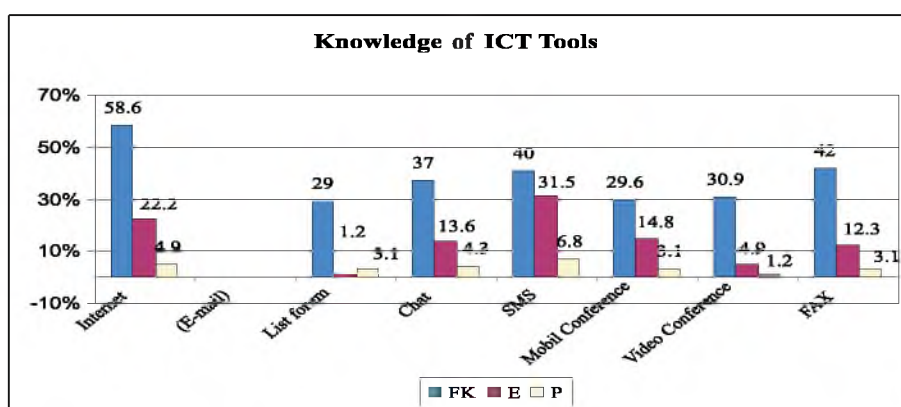
The level of knowledge on ICT tools was ascertained based on five point scales such as “Don't know, Beginner”, “Fair Knowledge”, “Expert”, and “Proficient” which is mentioned in Table 1 and Figure 1.

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**Table 1 : Level of Knowledge on ICT Tools**

<b>Description</b>	<b>DK</b>	<b>B</b>	<b>FK</b>	<b>E</b>	<b>P</b>
Internet (E-mail)	8 4.9%	15 9.3%	95 58.6%	36 22.2%	8 4.9%
List forum	67 41.4%	41 25.3%	47 29.0%	2 1.2%	5 3.1%
Chat	35 21.6%	38 23.5%	60 37.0%	22 13.6%	7 4.3%
SMS	13 8.0%	21 13.0%	66 40.7%	51 31.5%	11 6.8%
Mobile Conference	45 27.8%	40 24.7%	48 29.6%	24 14.8%	5 3.1%
Video Conferencing	60 37.0%	42 25.9%	50 30.9%	8 4.9%	2 1.2%
FAX	30 18.5%	39 24.1%	68 42.0%	20 12.3%	5 3.1%

(DK=Don't know, B=Beginner, FK=Fair Knowledge, E=Expert, P=Proficient)



**Figure 1 : Knowledge of ICT Tools**

The respondents were asked to indicate the level of knowledge on ICT tools. It is revealed from Table 1 and Figure 1 that the majority of respondents had “Fair Knowledge” of internet. It is followed by 42% of respondents had also “Fair Knowledge on FAX. It was also found that 40%, 31.5% of respondents were in the levels of “Fair Knowledge and “Expert” respectively on SMS. A good number of

**Table 2 : Level of Knowledge of ICT Tools Vs Designation**

	Librarians n=78					Assis tant Librarians n=51					Library Assistants n=33				
	DK	B	FK	E	P	DK	B	FK	E	P	DK	B	FK	E	P
Internet (E-mail)	3 3.8%	5 6.4%	47 60.3%	18 23.1%	5 6.4%	3 5.9%	6 11.8%	30 58.8%	10 19.6%	2 3.9%	2 6.1%	4 12.1%	18 54.5%	8 24.2%	1 3.0%
List forum	30 38.5%	18 23.1%	25 32.1%	2 2.6%	3 3.8%	21 41.2%	18 35.3%	11 21.6%	0 .0%	1 2.0%	16 48.5%	5 15.2%	11 33.3%	0 .0%	1 3.0%
Chat	15 19.2%	17 21.8%	32 41.0%	10 12.8%	4 5.1%	13 25.5%	13 25.5%	16 31.4%	7 13.7%	2 3.9%	7 21.2%	8 24.2%	12 36.4%	5 15.2%	1 3.0%
SMS	4 5.1%	8 10.3%	35 44.9%	24 30.8%	7 9.0%	6 11.8%	6 11.8%	20 39.2%	16 31.4%	3 5.9%	3 9.1%	7 21.2%	11 33.3%	11 33.3%	1 3.0%
Mobile Conference	20 25.6%	19 24.4 %	27 34.6%	9 11.5%	3 3.8%	15 29.4%	11 21.6%	13 25.5%	10 19.6%	2 3.9%	10 30.3%	10 30.3%	8 24.2%	5 15.2%	0 .0%
Video Conference	28 35.9%	20 25.6%	24 30.8%	5 6.4%	1 1.3%	19 37.3%	14 27.5%	16 31.4%	1 2.0%	1 2.0%	13 39.4%	8 24.2%	10 30.3%	2 6.1%	0 .0%
FAX	11 14.1%	16 20.5 %	38 48.7%	10 12.8%	3 3.8%	13 25.5%	12 23.5%	19 37.3%	6 11.8%	1 2.0%	6 18.2%	11 33.3%	11 33.3%	4 12.1%	1 3.0%

(DK=Don't know, B=Beginner, FK=Fair Knowledge, E=Expert, P=Proficient)

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respondents (37%) were in the level of “Fair Knowledge” on chat. A very few respondents (3.1%) were in the level of proficiency on “List Forum”.

The level of knowledge on ICT tools was further ascertained based on the designations and the same is indicated in Table 2. The respondents by designation were asked to indicate the level of knowledge on ICT tools. It is revealed from Table 2 that 30.8% of Librarians, 31.4% of Assistant Librarians and 33.3% of Library Assistants had knowledge in the level of “Expert” on SMS. It was further found that 60.3% of Librarians, 58.8% of Assistant Librarians and 54.5% of Library Assistant had also knowledge in the level of “Fair Knowledge” on E-mail. It was followed by 48.7% of Librarians, 37.3% of Assistant Librarians and 33.3% of Library Assistants were in the level of “Fair Knowledge” on FAX. It was further indicated that Librarians (23.1%), Assistant Librarians (19.6%) and Library Assistants (24.2%) had knowledge in the level of “Expert” on internet (email). A very few Librarians (12.8%), Assistant Librarians (13.7%), and Library Assistants (15.2%) were in the category of “Expert” on chat.

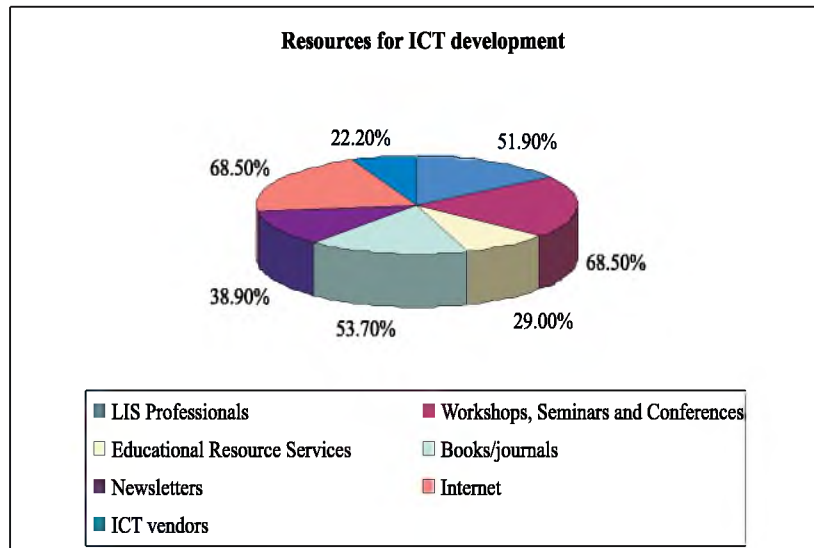
### Resources for ICT Development

The study also attempted to find out the resources used by the LIS professionals to develop their knowledge on ICT. The resources such as LIS professionals, workshops/seminars/conference, educational resources, books/journals, newsletters, internet and ICT vendors were identified. The respondents were also asked to select multiple answers and same is given in Table 3 and Figure 2.

**Table 3 : Resources for ICT Development**

Description	Yes	No
LIS Professionals	84 51.9%	78 48.1%
Workshops, Seminars and Conferences	111 68.5%	51 31.5%
Educational Resource Services	47 29.0%	115 71.0%
Books/journals	87 53.7%	75 46.3%
Newsletters	63 38.9%	99 61.1%
Internet	111 68.5%	51 31.5%
ICT vendors	36 22.2%	126 77.8%





**Figure 2 : Resources for ICT Development**

The respondents were also asked to indicate the resources used to develop their knowledge. It is revealed from Table 3 and Figure 2 that majority of respondents (68.50%) attended the workshops/seminars/conferences and used internet to develop their knowledge on ICT. The next widely used resources were books/journals (53.70%). It was further found 53.70% of respondents used books/journals to update their knowledge on ICT. A good number of LIS professionals (51.90%) also helped the professional colleagues (LIS professionals) in developing ICT knowledge. A very few respondents used newsletter (38.90%), and 22.20% of respondents developed their knowledge on ICT with of ICT vendors.

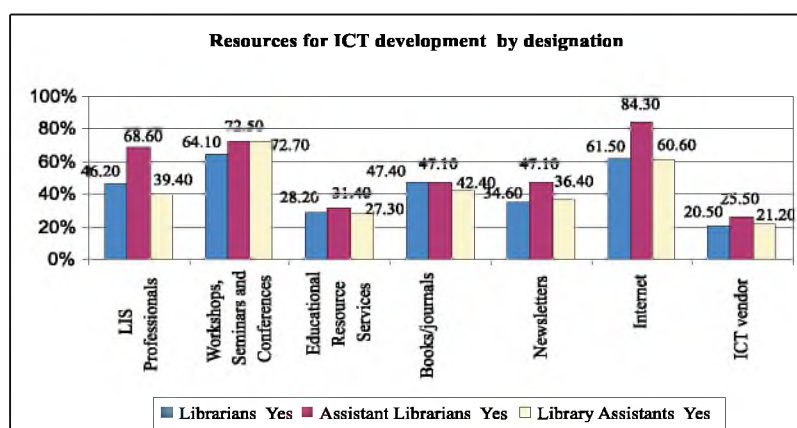
The respondents used various resources to update their knowledge on ICT. These were ascertained based on designations and the same is given in Table 4 and Figure 3. The respondents by designation were asked to indicate the resources used to update their knowledge on ICT. It is revealed from Table 4 and Figure 3 that majority of librarians (64.10%), and 72.5% of Assistant Librarians and 72.70% of Library Assistants attended the workshops/seminars/conferences to develop ICT knowledge. It was followed by 61.5% of Librarians, 84.3% of Assistant Librarians and 60.6% of Library Assistants used internet to update their ICT knowledge. It was also found that 61.5% of Librarians used internet, 84.5% of Assistant Librarians, and 60.6% of Library Assistants also used email to develop on ICT knowledge. It

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was also found that 47.4% of Librarians, 47.1% of Assistant Librarians and 42.4% of Library Assistants used books/journals to develop their ICT knowledge. A good number of Librarians (46.2%), Assistant Librarians (68.6%), and Library Assistants (39.4%) developed their knowledge on ICT by consulting with the LIS professionals develop ICT knowledge. A very few number of Librarians (34.6%), Assistant Librarians (47.1%), and 36.4% of Library Assistants used newsletters received from the professional organizations/associations to develop their knowledge on ICT.

**Table 4 : Resources for ICT Development Vs Designation**

Description	Librarians n=78		Assistant Librarians n=51		Library Assistant n=33	
	Yes	No	Yes	No	Yes	No
LIS Professionals	36 46.2%	42 53.8%	35 68.6%	16 31.4%	13 39.4%	20 60.6%
Workshops, Seminars and Conferences	50 64.1%	28 35.9%	37 72.5%	14 27.5%	24 72.7%	9 27.3%
Educational Resource Services	22 28.2%	56 71.8%	16 31.4%	35 68.6%	9 27.3%	24 72.7%
Books/journals	37 47.4%	41 52.6%	24 47.1%	27 52.9%	14 42.4%	19 57.6%
Newsletters	27 34.6%	51 65.4%	24 47.1%	27 52.9%	12 36.4%	21 63.6%
Internet	48 61.5%	30 38.5%	43 84.3%	8 15.7%	20 60.6%	13 39.4%
ICT Vendor	16 20.5%	62 79.5%	13 25.5%	38 74.5%	7 21.2%	26 78.8%



**Figure 3 : Resources for ICT Development by Designation**



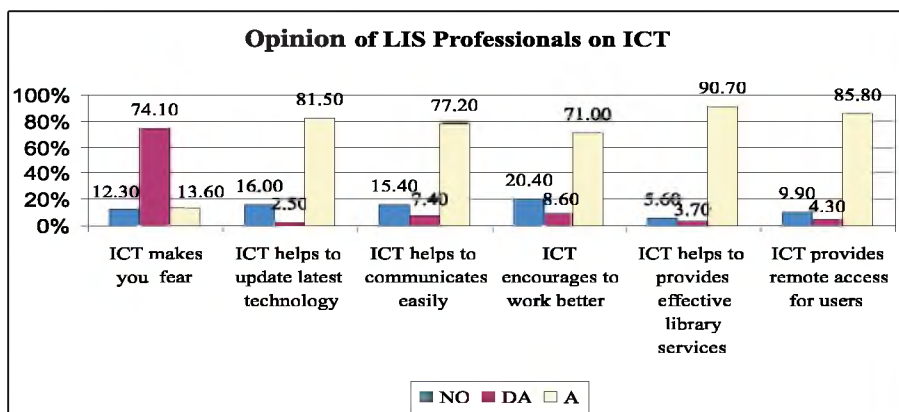
### Opinion of LIS Professionals on ICT

The study also attempted to analyse the attitudes of LIS professionals on ICT. The following attitudes were identified and ascertained by five point scales such as “No Opinion”, “Disagree”, and “Agree” and the same is indicated in Table 5 and Figure 4.

**Table 5 : Opinion of LIS Professionals on ICT**

Description	NO	DA	A
ICT makes you fear	20 12.3%	120 74.1%	22 13.6%
ICT helps to update latest technology	26 16.0%	4 2.5%	132 81.5%
ICT helps to communicate easily	25 15.4%	12 7.4%	125 77.2%
ICT encourages to work better	33 20.4%	14 8.6%	115 71.0%
ICT helps to provide effective library service	9 5.6%	6 3.7%	147 90.7%
ICT provides remote access for users	16 9.9%	7 4.3%	139 85.8%

(NO=No Opinion, DA=Disagree, A=Agree)



**Figure 4 : Opinion of LIS Professionals on ICT**

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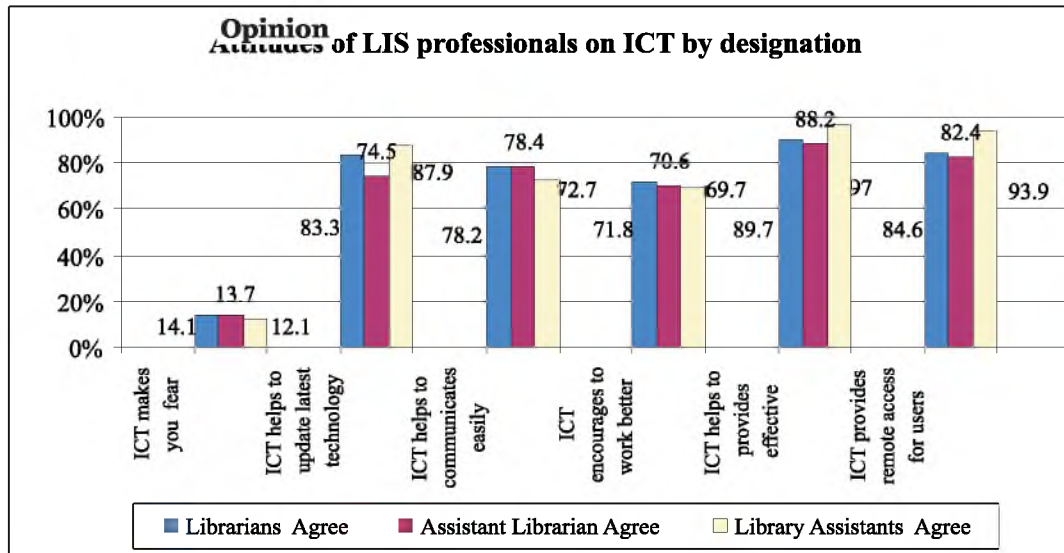
The respondents were asked to indicate their attitudes on ICT. It is revealed from Table 5 and Figure 4 that majority of respondents (90.7%) agreed that ICT helps to provide effective services in the libraries. It is followed by 85.8% of respondents who found that ICT provides remote access for the library users. It was further found that 77.2% of respondents used ICT to communicate easily with others. A good number of respondents (81.5%) used ICT to update the latest technology. It was further interesting to note that 71% of respondents found that ICT encourages working better in the libraries. A very few respondents (12.3%) found that ICT makes to feel fear.

The attitudes of LIS professionals on ICT was further ascertained based on designations and the same is given in Table 6 and Figure 5.

**Table 6 : Opinion of LIS Professionals on ICT Vs Designation**

Description	Librarians n=78			Assistant Librarians n=51			Library Assistants n=33		
	NO	DA	A	NO	DA	A	NO	DA	A
ICT makes you fear	11 14.1%	56 71.8%	11 14.1%	8 15.7%	36 70.6%	7 13.7%	1 3.0%	28 84.8%	4 12.1%
ICT helps to update latest technology	9 11.5%	4 5.1%	65 83.3%	13 25.5%	0 .0%	38 74.5%	4 12.1%	0 .0%	29 87.9%
ICT helps to communicate easily	10 12.8%	7 9.0%	61 78.2%	7 13.7%	4 7.8%	40 78.4%	8 24.2%	1 3.0%	24 72.7%
ICT encourages to work better	14 17.9%	8 10.3%	56 71.8%	10 19.6%	5 9.8%	36 70.6%	9 27.3%	1 3.0%	23 69.7%
ICT helps to provide effective library service	5 6.4%	3 3.8%	70 89.7%	4 7.8%	2 3.9%	45 88.2%	0 .0%	1 3.0%	32 97.0%
ICT provides remote access for users	10 12.8%	2 2.6%	66 84.6%	5 9.8%	4 7.8%	42 82.4%	1 3.0%	1 3.0%	31 93.9%

(NO=No Opinion, DA=Disagree, A=Agree)



**Figure 5 : Opinion of LIS Professionals by Designations**

The respondents were asked to indicate the attitudes of LIS professionals towards ICT. It is revealed from Table 6 and Figure 5 that majority of Librarians (89.7%), Assistant Librarians (88.2%), and Library Assistants ((97%) found that ICT helps them to provide effective library services to the users. It was followed by 84.6% of Librarians, 82.4% of Assistant Librarians, and 93.9% of Library Assistant agreed that ICT provides remote access to the users. It was also found that 83.3% of Librarians, 74.4% of Assistant Librarians, and 87.9% of Library Assistants indicated that ICT helps them to update the latest technologies. A good number of Librarians (78.2%), 78.4% of Assistant Librarians, and 72.7% of Library Assistants agreed that ICT enables them to communicate easily. A very few Librarians (14.1%) Assistant Librarians (15.75) and Library Assistants (3.0%) felt fear about ICT.

### Conclusion and Recommendations

Information and Communication Technologies (ICTs) are being implemented in almost all the libraries especially in academic institutions. The demand for information by the users is also changed due to the advancement in the

technologies. The librarians/information professionals are forced to acquire such kind of knowledge to meet the requirements of the users. The implementation of new technologies in the libraries largely depends on the skills possessed by the librarians. The study was carried out based on the objectives and the following are recommended on the basis of the research findings:-

1. Generally, it was found that LIS professionals are having “Fair knowledge” in many ICT tools. It is most important that the LIS professionals need to develop their knowledge/skills in advanced technology like mobile technology, video conference technology. It will enable the LIS professionals to provide e-learning service, educational live telecast programmes etc to the users.

2. The LIS professionals refer to a number resources print and non -print to keep abreast of the latest technologies in Library and Information Science. It enables to provide web based services to the users. The study also found that the LIS professionals used such kind of resources to update their knowledge and skills on ICT to render quality services to the users.

3. It is important that LIS professionals should have positive attitudes when a new technology is implemented in the libraries. It is also indicated in this study that the majority of LIS professionals have positive attitudes on ICT. It enables to locate, access, process and disseminate information to the users in the desired forms. The ICT also facilitates the remote access to the library resources and services. Therefore; it saves the time of the library staff as well as the users in many ways.

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