

Application of Information, Communication Technology in libraries of Warangal District: A study

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ABSTRACT:

Information and Communication technology influence to provide effective and quality of library services. Academic library take part of significant role in serving on the whole library and information services to the students. This study elaborates new technology to implement and utilize the ICT based facilities & services, usage of various tools of ICT and challenges while application of ICT in libraries. This paper also finds level of satisfaction of respondents and some of the suggestions and recommendations also have been given to create the service most valuable in the users of different colleges of Warangal district.

Keywords: *ICT, Information, communication technology, Internet, Library Automation, College libraries, Satisfaction Level.*

1. Introduction

In the present era Information and communications technology (ICT) is the most important in library environment to process the data, store the content and distribute the useful information to all the needful users of library. Moreover application of ICT play major role for communicates to anyone, build new feelings, right to use, practice, handle and deliver information. For the students learning environment, ICT focuses on providing tools to improve the skills, knowledge, and explore their ideas. It is the interdisciplinary domain of ICT. After the creation of ICT, libraries adopted different kinds of technologies to support the services which are they develop. To handle the information day by day the advancement of technology has affected in libraries. In every aspect of new trends of information, to use, recover, accumulate and dissemination of information to users, the libraries

has been developed in making new trends or technologies like communication technology, computing technology and mass storage technology are for redesign the libraries. The educational library has been from its beginning and primary element of organizations of advanced learning, rather than an afterthought or add-on.

Over the past 30 years, the education libraries have been impacted by changes in communication and information technology and they are set up to support research, teaching and learning developments through application of ICT. The speed of transformation is still increasing in this part. Some of the advancement has happened by the introduction of different ICT developments has leads to reformation, modify in work models, demand for fresh talents, profession retraining and re-categorization positions. By the last 30 years advancement in the technology has been in the CD-ROMs, online services, electronic databases, and invention of internet has drastically altered access to information and application of ICT holds the answer to the accomplishment of up to date information services. Part of the of application of ICT in the library, entire process of dissemination of information, retrieve of information and storage of information in electronic manner by possibility after converting the existing information from physical forms to electronic forms. Application of ICT on all the areas of academic library services, particularly in the shape of the strategies for development of library collection, library infrastructure facilities, building and consortium, moreover ICT gives chance to their library users in providing useful information services and access to large range of electronic based information sources. In addition, education libraries are also using new technologies to computerize their main areas of services, build up institutional repositories with available of local electronic contents, introduce capable and helpful resource sharing networks and library cooperation and provide MIS with electronic library; addition this start the information and communication based facility to their library users in providing quality programs. Information and Communication Technology has brought exceptional transformation and changes to educational and usual library and information services for example, OPAC, bibliographic services, Document delivery service, current awareness services, user services, reference services, Audio visual services, interlibrary loan, referral and patron relations can be offered additional capably and efficiently with application of ICT, as they recommend suitable place and time, quicker and most recent spreading, cost effectiveness and closing stage clients participation in progression of the LIS. In addition this, application of ICT includes communication tools i.e. computer network, hardware and software, radio, TV, mobile phones, satellite systems and so on, at the same time the different functions and applications connected by them too. Information and Communication Technology (ICT) has impacted on information services in different formats, contents and type of creation and distribution of information goods. As the biggest repository of knowledge and information by using internet tool, besides this, transformed the role of professionals of LIS as a facilitator of information by using different sources.

2. Objectives

Some of the important objectives of this study are

- To know the available information resources in libraries.
- To find out the status of library automation.

- To study the friendly services of library user.
- To understand the challenges for application of ICT in library.
- To identify the level of satisfaction towards the application of ICT.

3. Review Literature

Miraj and Haldi (2012)¹ has exposed their views on application of ICT that the ICT facilities were very important in medical college libraries, and some of the barriers were also found in application of ICT. Some of the problems while apply the ICT i.e. absence of websites, lack of cooperation from higher authorities, Lack of hardware, absence of ILSs for automation, partial automation, few training opportunities for medical librarians and inadequate funds were the main problems. Saleem, Shabana Tabusum S. Z. and M. Sadik Batcha (2013) has found that to provide innovative services and easy access to the users for every required information, ICT tools are applied to academic libraries. The video conferencing facilities enable the users to provide the efficient usage of ICT based activities and services. Akhtar Hussain (2013) in his study shows, to overcome inadequacies in traditional methods and services ICT has been a means to bring quality services through automation of libraries ICT has also results in developing positive attitude to reach out globally to provide library services in very cost effective manner. ICT has enabled users to avail many services without any human intervention. ICT largely used in libraries for operations, like acquisition, cataloguing, serials and circulation control. ICT brings quick access for information through online searching and the study focus on the ICT training for library professionals, it should be given to the library professionals to improve the ICT skills of the library professionals and the application of technology based information services enhances the ability of the libraries. Ahmad Parvez (2011) The findings from the study revealed that any development in ICT accelerates library development and has a symbiotic relationship between ICT and library. Libraries are totally dependent on ICT based products & services and broadly valuable in economy, ease, expansion and efficiency in terms of 4 Es, (chauhan 2004) to fulfill the needs of the hi-tech users. Aina, A. J, Aiyegunle, S. A, Ogunbgo, W. O, Aribatise, H. O. (2010) This study investigated that there is a significant effect of ICT on problem hindering deployment to technical services department to the libraries. The implementation of ICT not much effective for various reasons such as Inadequate training facilities, poor attitude of staff and learners, high cost of ICT devices and lack of support from the libraries management results in factor influencing the use of library.

4.1 About brief history of Telengana State

New State of Telangana has come after the deep fought by political activities, a group of related people and organized support to make a platform of Telangana movement for last 60 years to creation of new state of India. In South India the Telangana state has divided from the existing state of [Andhra Pradesh](#) which was formed in 1956. On 7th February 2014 the Cabinet has passed the bill and permission the line for its beginning in Parliament to creation of Telangana state. With huge majority the Lok Sabha passed the bill on 18th February 2014. Later, the Rajya Sabha

has passed the bill on 20th February 2014. And Hyderabad will be the joint capital for Telangana and Andhra Pradesh for first 10 years as per the bill. The June 2nd is selected day for formation of [Telangana](#) State as 29th state in India.

4.2 About brief history of Warangal

In new state of Telangana, the Warangal district has 2nd biggest city after Hyderabad. And it has great historical background also. Long ago the *Kakatiya Kingdom* were ruled the Warangal. Hence the earlier names of Warangal were as Ekasila Nagaram, Orugallu and Telangana Nagaram. Warangal is 148 kilometers away to Hyderabad which is capital city of Telangana state. The Warangal is grouping of tri cities of Kazipet, Hanamkonda and Warangal.

4.3 About Colleges of Warangal

In entire Telangana state Warangal has the second position in higher education next to Hyderabad. Because Warangal has India's prestigious colleges like NIT, KMC, KU, KUEC, KU Pharmacy, KITS etc... Nearly 160 higher education colleges in Warangal district, among that 30 Engineering Colleges, 38 Pharmacy colleges, 54 Management colleges, 12 B.Ed colleges, 12 Govt. Degree & PG colleges and 15 private Degree and PG colleges. In all colleges the library environment has in good condition.

4.4 About college library

In the education process, the colleges play major role. For boys and girls the college education gives a completely special atmosphere for advanced studies. Comparatively college education differed from school education, because in college education less personal care from teachers, at the same time school education has more individual concentration on every student. For that reason the students must depend on the self-learning. So the replacement of the class room teaching the college library is the key location for the student's. In general, for getting information the ICT has major part in all aspects. Therefore the college libraries must strengthen their libraries with full of ICT facilities.

4.5 ICT concepts and Meaning

ICT includes a collection of technologies utilized to carry communication and information. ICT incorporates both applications and networks. Familiar applications are the multimedia, database management systems and internet tools. Networks consist of satellite and telecommunication, fixed and wireless communications. Through implication, a holistic accepting of ICT essentially contains consideration of human resource development policies, information policies and telecommunication policies.

5. Research Methodology

Different Academic College libraries in Warangal district were surveyed during months of April and May 2014, by applying a survey tool based on questionnaires for similar surveys in Warangal district. The Questionnaires were sent to the incharges of all college libraries including degree colleges (Govt and private), pharmacy

colleges, engineering colleges, B.Ed colleges, MBA&MCA colleges by delivered in person or by email. The supplied questionnaires were restricted closed ended and multiple choice questions for best analysis and understanding. Moreover only 60 questionnaires were taken in to

6. Data analysis and interpretation

By using simple percentage and frequency counts the collected data were analyzed according to questionnaires.

Sample size of the study: The sample size has taken according to course wise. Total 60 samples were taken in to the count.

Table 6.1: Sample size

S.No	Respondents	College wise	Total Supplied Questionnaires	Total received Questionnaire	Total accepted Questionnaires	Percentage
1	Library Incharges	Engineering	30	25	15	25.00%
2		Pharmacy	30	22	15	25.00%
3		MBA & MCA	30	20	15	25.00%
4		B.Ed	10	8	5	8.33%
3		Govt Degree	10	8	5	8.33
6		Private Degree	10	7	5	8.34
Total	120	90	60	100		

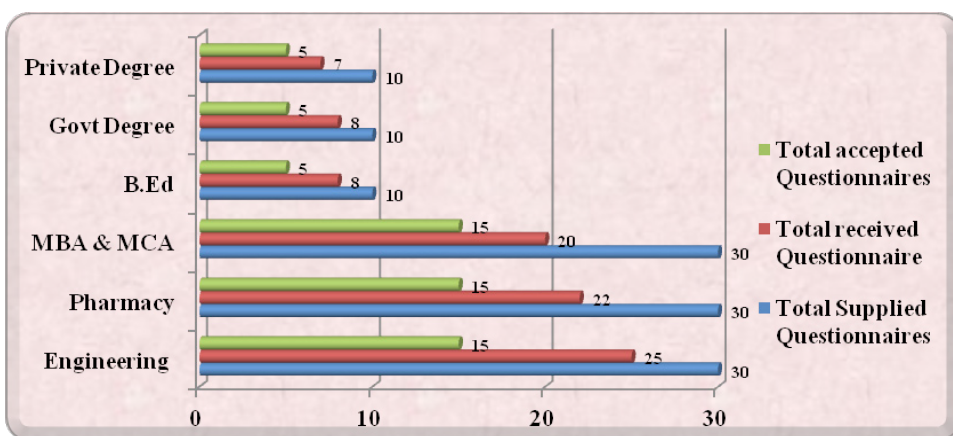


Figure 6.1: Sample size of respondents'

The table 6.1 showed the samples size of all colleges of Warangal district. Exactly 120 questionnaires were supplied to colleges wise and 90 questionnaires received from the respondents. Only 60 questionnaires were taken in to the final count which were filled all necessary data and good condition. Moreover 30 questionnaires were

incompletes and not useful for data analyzed. Hence the above table reveals that only 0% questionnaires were taken as sample among 120 questionnaires (Figure 6.1).

6.2. Available other ICT facilities in the library

Other facilities of ICT are essential for academic libraries, in every aspect these facilities help to users to get effective information.

Table 6.2: Available other ICT facilities

S.No	Facilities	Respondents	
		Yes	No
1	Telephone	20	40
2	Fax	10	50
3	Printer	8	52
4	Scanner	3	57
5	DVD's (Subject & General)	40	20
6	TV	5	55
7	Xerox	50	10
8	UPS	20	40
9	LAN	40	20
10	LCD Projector	5	55
11	Internet	36	24
12	E-Journals	25	35
13	Automation	25	35

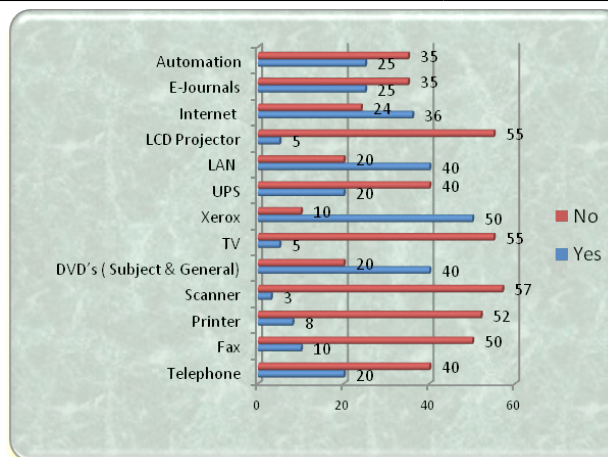


Figure 6.2: Available other ICT facilities

The table 6.3 shows that 40 respondents provided DVD's and LAN facilities in their libraries, 50 respondents provided Xerox facility, 20 members voted on telephone and UPS facilities, 10 respondents provided FAX facility, while 8 for printer

facility, 5 for TV and LCD projector facilities and remaining 3 were Scanning facility and 25 were voted for automation and E-Journal facilities. (Figure 6.2).

6.3: Type of software used for Library Automation:

Most important part of library automation is selection of software. In present days number of library management softwares is available in different types. This study found some of the software's were used by respondents in their library.

Table 6.3: Type of software used for library Automation

S.No	Type of Software	Respondents	Percentage
1	Commercial Software	14	23.33
2	In House Developed Software	2	03.33
3	Open Source Software	6	10.00
4	Any other Software	3	05.00

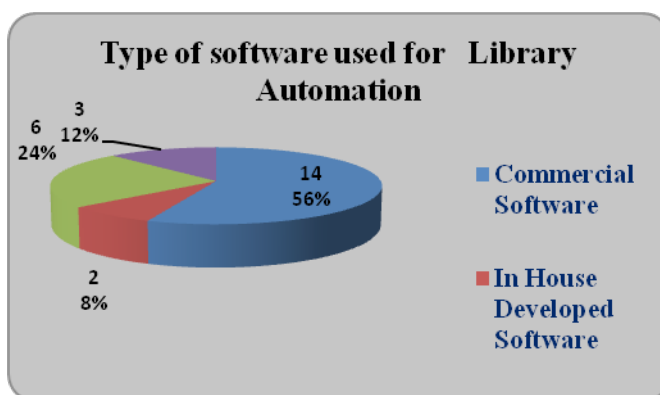


Figure 6.3: Type of software used for Library Automation

Table 6.3 reveals that most of the respondents i.e. 14 (23.33%) were used commercial software, 6 (10.00%) were used open source software, followed by 2 (3.33%) and 3 (5.00%) were done library automation with In house developed software and other software's (Figure 6.3).

6.4. Reference, User Friendly & Audio/Visual Services:

References, User Friendly & Audio/Visual Services are important to users to get benefitted from ICT facilities.

Table 6.4: Type of Services

S.No	Services	Type of Service	Respondents
1	Reference Services	Access to E-Journals	35
2		N List or AICTE Consortia	10
3		Internet	36
4		Any other	40

5	User Friendly Services	OPAC	25
6		Audio/Video CD's	45
7		Any other	25
8	Audio/Video Services	MANA TV	4
9		LCD Projectors	5
10		Subject CD's	40
11		Any Other	25

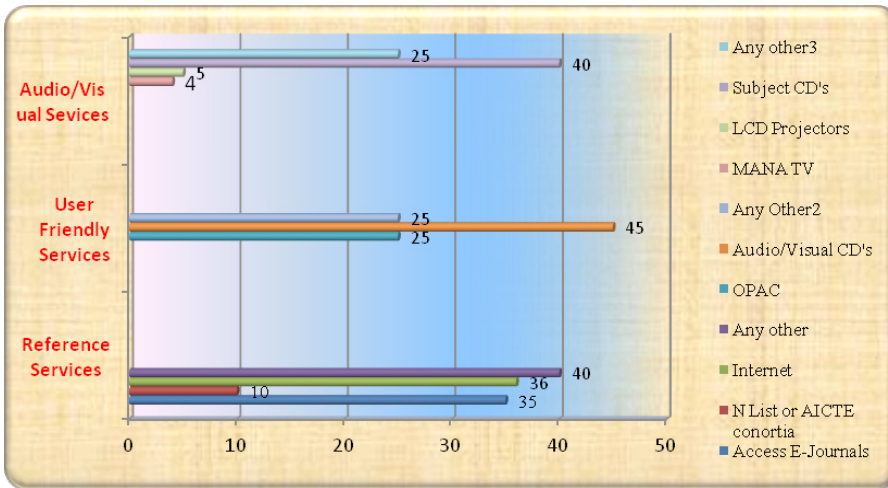


Figure 6.4: Type of Services

Table 6.8 elaborates of reference services offered in different libraries that 35 members were provided access of e-journals, 10 respondents provided N List or AICTE Consortia, Whereas 36 respondents offered Internet service and remaining 40 respondents said other reference services provided to their library users. Under user friendly services 45 respondents are provided audio/video CD's to their library users, whereas 36 respondents were offered Internet and 25 members provided OPAC and other user friendly services in their libraries. Under Audio/Visual Services 40 respondents were offered Subject CD's service, while 25 members provided other services. Followed by 5 respondents given services on LCD projector and remaining 4 respondents were serviced on MANA TV (Figure 6.10).

6.5. Orientation & other supports to implement of ICT

For implementation of ICT orientation and other support must for library professionals.

Table 6.5: Orientation & other supports to implements of ICT

S. No	To implement ICT	Respondents	
		Yes	No
1	By Orientation experience	40	20
2	By Trained Assistants	25	35
3	Orientation Programs to Users	25	35
4	Support from HOI/Mgt	5	10

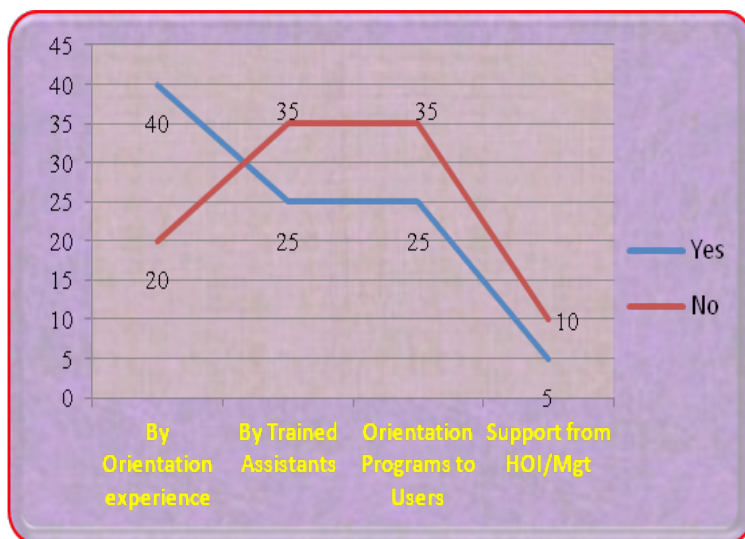


Table 6.5 reveals about conducted orientation program on ICT to users that 25 (41.67%) respondents they were conducted orientation to all library users and 35 (58.33%) respondents were not conducted orientation program on ICT to all their library users (Figure 6.5).

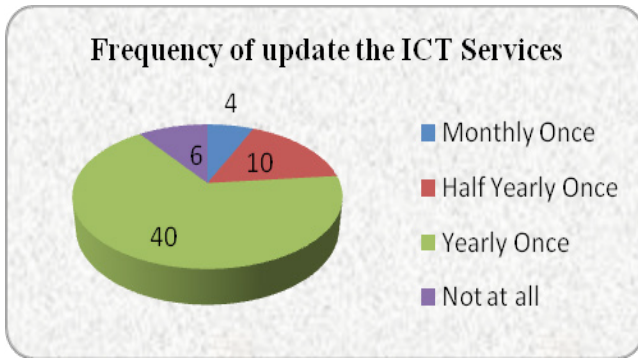
6.6. Frequency of update the ICT Services

Update the ICT services is continuous process and advanced, valuable information available to users when proper and time to time update of ICT Services

6.6. Frequency of update the ICT Services

S. No	Frequency of update the ICT Services	Respondents
1	Monthly Once	4
2	Half Yearly Once	10
3	Yearly Once	40
4	Not at all	6

Table 6.16 reveals that most of the respondents i.e. 40 (66.67%) respondents updated the ICT services in their libraries by yearly once and 10 (16.67%) respondents updated the ICT services by half yearly once, followed by 4 (6.66%) respondents updated the ICT services monthly once, whereas 6 (10.00%) respondents did not updated the ICT up to now (Figure 6.16).



6.7. Establishment of ICT facilities is useful to provide better services

For provide better services to users establishment of ICT facilities are essential.

Table 6.7: Establishment of ICT facilities

S.No	ICT Facilities	Respondents	
		Yes	No
1	Library Automation has eased for Library operation	25	35
2	ICT has meeting the user’s needs quickly	40	20
3	ICT has helped to reduce anti library attitudes	45	15
4	Automation has speeded up the process of Cataloguing & Classification of the Library Material	20	40
5	ICT enables most effective library services	45	15
6	Retrieval of information is become easy	40	20

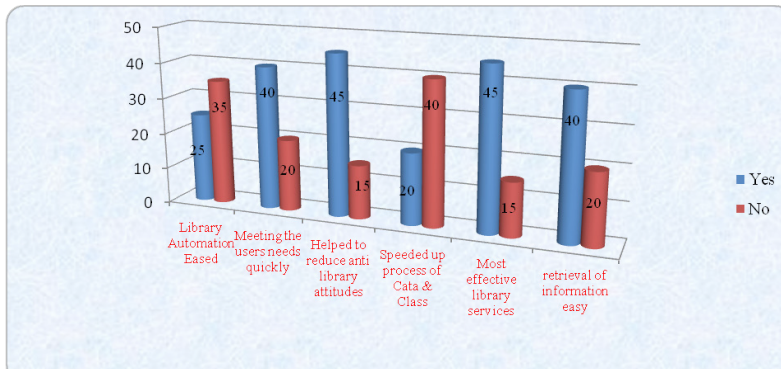


Figure 6.7: Establishment of ICT facilities

The table 6.7 elaborates on establishment of ICT facilities are useful to better service that 25 respondents voted Yes and 35 were voted No for 'Library Automation has eased for Library operation' while 40 respondents bended on Yes and 20 respondents bended on No for both 'ICT has meeting the user's needs quickly' and 'Retrieval of information is become easy'. Moreover 45 respondents felt Yes and 15 respondents felt No for 'ICT has helped to reduce anti library attitudes' and 'ICT enables most effective library services'. At the same time 20 respondents thought Yes and 40 respondents thought No for 'Automation has speeded up the process of Cataloguing & Classification of the Library Material' (Figure 6.7).

6.8. Satisfaction level while provided ICT

The respondents of this study were felt on satisfaction according to their services and facilities on ICT.

Table 6.8: Satisfaction level while provided ICT

S. No	Satisfaction Level	Respondents
1	Up to 25%	10
2	Up to 50%	40
3	Up to 100%	8
4	Not at all	2

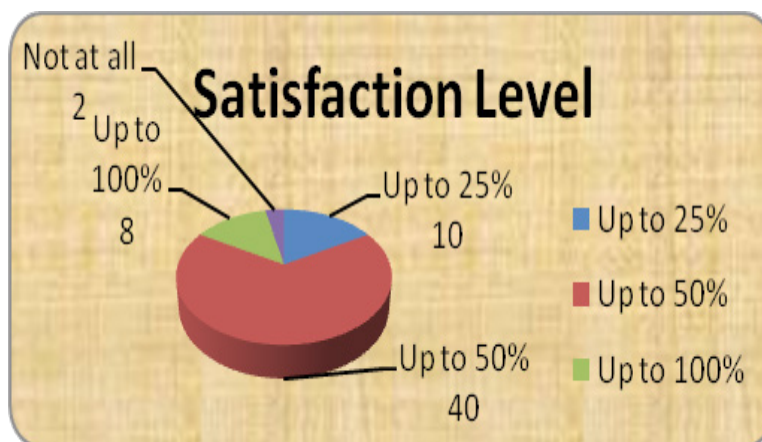


Figure 6.8: Satisfaction level

Table 6.8 highlights that huge amount of respondent's i.e. 40 (66.67%) satisfied up to 50% while 10 (16.67) respondents satisfied up to 25% towards the application of ICT. Whereas 8 (13.33%) respondents satisfied up to 100% and only 2 (3.33%) respondents not satisfied at any cost towards the application of ICT in their respected libraries (Figure 6.8).

7. Findings

Some of the important findings of this survey revealed of academic college's libraries in Warangal district are as below.

- Other ICT facilities of library i.e. telephone, fax, TV, UPS and LCD projectors etc. were could not meet the users emergency and Xerox, Scanning and printing facilities are better in all college libraries.
- Even half of the colleges were not provided E-journals access in their libraries. Large amount of libraries were not completed automation in their libraries and only 6 colleges were used open software's.
- Need to improve reference services, friendly user services and audio/visual services for better results. Academic college libraries were not equipped with a big quantity of primary ICT tools. Limited financial resources were dragged the application of ICT in libraries of Warangal district.
- Support from Mgt or head of the institute for provide better ICT facilities were quite better. Lack of training programs and trained assistants in libraries to enhance their ICT skills. Update the ICT services in libraries not done in regular period. Most of the respondent's i.e. 40 out of 60 respondents updated their ICT services yearly once,
- 50 % respondents said establishments of ICT facilities is useful to provide better services for all type of users. Satisfaction levels are: Up to 50% - 40 respondents agreed, up to 100% - only 8 respondents agreed, hence the survey showed that application of ICT in libraries of Warangal district needs to improve their facilities and services.

8. Conclusion

Academic colleges are an important part of education development and career growth of the students. This group of people should be updated latest developments in libraries for their field for better user care. This survey was carrying out to examine the position of ICT applications in academic libraries in Warangal district and brought a low level of ICT applications. Partial library automation, Lack of hardware, insufficient funds, and lack of cooperation from higher authorities, deficiency of websites and few training opportunities for academic librarians were the major drawback. Though, academic libraries of Warangal district were healthy attachment and had better utilize the digital library resources. And need improve reference service and user friendly services in Warangal district academic libraries. It might be finished that the condition of hardware, sufficient financial resources, standardized library software and proper orientation facilities for academic librarians will assist to make stronger ICT application in academic libraries of Warangal district. Higher authorities' cooperation is an important to accomplishment that is powerfully required in this case. It's suggested that professional associations and library schools in Warangal organize seminars, workshops, refresher courses, and ongoing teaching programs for academic librarians. For overcome the financial problems Consortiums of academic libraries at the regional and national level might be increased for resource distribution. Academic librarians in Warangal district

must unite together to afford more applications of ICTs in libraries to provide better information in well-organized manner.

9. Suggestions and Recommendations

9.1 Suggestions

The most of the suggestions were given by respondents for usage of ICT in academic college libraries.

- 15 (25.00%) respondents have given multiple and 10 (16.67%) respondents have suggested single suggestions that for library automation there should be need proper computer literacy and training facilities.
- 13 (21.67%) Respondents that seminars, workshops and ongoing training programs for library professionals are provided on continuously to improve their ICT skills.
- 20 (33.33%) suggested that providing sufficient budget for procure of hardware & software, ICT tools.
- 2 (3.37%) academic librarians recognized that increasing integrated academic library software and provide extra facilities like scanning, printing; LCD projectors, fax, and telephone by paying low price for better utilize ICT applications.

9.2 Recommendations

Some of the recommendations are made here based on the above conclusions.

- Funds provisions must be on regular basis. The mandatory budget allocation for 10% of the academic college library should be provided and supervised for careful utilization. If this is recognized, the management of library must make necessity ICT tools for top priority list and followed carefully and to a reasonable and useful end. All the users depends on ICT usage in libraries, so there must be generator/ inverter facility for alternative power supply for avoiding of power cut problems.
- For better utilization ICT facilities in library, students and staff must have taken training or orientation on program on use of www/internet, applications of IT and use of computers for retrieval of information.
- Must provide necessary facilities i.e. Xerox, printing and scanning to all students and staff with minimum cost. Provide access facilities of N-list and AICTE consortia for all library users. Increase reference services and user friendly services to getting of advanced information's.

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