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PERCEPTION OF ICT SKILL AND OPINION AMONG THE COLLEGE LIBRARIANS IN ASSAM DURING THE PRE-COVID PERIODS: A STUDY

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Abstract

The proper ICT infrastructure in the libraries can't achieve the goal of a particular library unless it is supported by skilled manpower and dedication of the library professionals towards his/her duties. Library professional performs the role of collection development, organization of information resources, providing access to information resources, preservation of resources, advising and guiding the users, management and administration and also involvement in digital oriented services etc. The digital oriented technology has lead to designing new services as well as access to the navigation of electronic collection and other electronic resources. To meet the present needs library professionals have to perform various activities with the new technological environment. The authors have an attempt to identify the perception of ICT Skill and opinion among the college librarians in Assam during the pre-covid periods. A structure questionnaire has used to collect the primary data from the college librarians of Assam. The findings of the study revealed that the librarians have the sufficient ICT skills to manage the electronic resources and services.

Keywords: Information and communication Technology, ICT Skills, College Library

1. Introduction: A library is the heart of an educational institution that collects, stores and transmits up-to-date information to teachers, students and research scholar. The use of ICT in libraries provides sufficient opportunities to automate the traditional activities, implement effective library co-operation and resource sharing networks, develop institutional repositories or digital libraries, and provide value-added information services as well as capacity building programs for the library staff and users[1]. ICT has tremendously influenced on housekeeping operations such as acquisition, cataloguing, circulation, serial control and OPAC. It has also influenced the management of information resources and services. In addition, ICT has used to develop new information services and increased the productivity and efficiency of library services. And the most important of all, the ICT based resources help to reduce library space by using the electronic storage media, digital library, and virtual learning activities. The use of ICT in libraries enhanced the satisfaction level of the users in different ways. ICT based library services provides a variety of benefits to library users such as speedy and easy access to information, remote access to users, round the access to users, access to unlimited information for different sources, information flexibility to be used by any individuals according to his or her requirements, increased flexibility, facilitates the reformatting and combining of data from different sources. The libraries are also providing various ICT based services to the user community along with the provision of web access to OPAC, electronic document delivery, networked information resources, delivery of information to the users, online guidance and online reader advisory services[2]. ICT has also changed the scenario of library professionals with more involvement in digital oriented services. Library professional performs several roles like collection development, organization of information resources, providing access to information resources, preservation of resources, advising and guiding the users, management and administration, etc. To fulfil the user demand, library professionals have to perform various activities in the new technological environment. ICT has the most sophisticated tool in the acquisition, storage, and retrieval of information resources, emerging new services along with the traditional services of information organization. Though LIS professionals have the opportunity to search for different websites, e-books, e-journals and other information resources, they must be attentive regarding newly developed hardware and software required for the library. Library professionals have a new challenge to accept the changing environment and required skills to cope up with the changes[3]. The study has planned to identify the perception of ICT Skill and opinion among the librarians in the college libraries of Assam during the pre-covid periods. It will identify the Skills on ICT application, managing library resources, managing ICT based library services and the attitude of the college librarians towards the application of ICT.

2. Literature Review: There have been a number of research studies on ICT Skills and attitude of LIS Professionals. So few related studies on the areas have been observed before conducting the research study. **Babu, Vinayagamoorthy, and Gopalakrishnan** (2007)[4] identified the background information about the institution and librarian, types of ICT skills possessed by the librarians, level of different types of ICT skills possessed by the librarians and methods of acquiring ICT skills. It is also identified the constraints that they have faced in acquiring ICT skills. Ejedafiru, *et al.* (2013)[5] carried out a study on attitude of professional librarians towards the use of Information and Communication Technology (ICT) in Delta State University Library. The study revealed that the attitude of professional librarians towards ICT was positive for library services and personal development. Inadequate funding is the major barriers to use of ICT in their University library. **Seena**

and Pillai (2014)[6] studied on ICT Skills among library professionals in the Karela University library system. The study investigated the awareness, skills, and attitude towards information and communication technology among library professionals in the Karela library. The analysis of the study has revealed that library professionals in the Karela University library system have relatively average level skills in various ICT related tasks in the library. A good number of LIS professionals indicated that the main constraint relating to the application of ICT in libraries is the lack of timing. **Nkamnebe, *et al.*** (2015)[7] conducted study on extent of information and communication technology skills possessed by librarians in university libraries. Findings of the study have revealed that librarians of the Universities in Anambra state are weakly skilled in ICTs. The librarians are highly skilled in basic computing, word processing and file management and moderately skilled in information search and retrieval, internet and World Wide Web. The librarians are weakly skilled in library automation and E-mail operations. They don't have skilled in automated cataloguing and classification or use of OPAC, presentation using Microsoft power point and database creation/management. Mahanta (2016)[8] made a pilot study on ICT Skills among LIS Professionals in Assam covered only 36 LIS professionals. Simple statistical methods and techniques have applied to analyze the collected data. It is found that the level of the awareness of ICT based applications, skills for managing electronic resources and skills for managing ICT based library services is found satisfactory level. Inadequate training in ICT applications is the main constraint among the LIS professionals in Assam. Lack of support from authorities is also a problem among them to achieve good ICT infrastructure with network facilities.

3. Objectives: The following objectives are adopted to fulfill the aim of the study "perception of ICT Skill and opinion among the librarians in the college libraries of Assam during the pre-covid periods":

o To identify the skills of the librarians on ICT based application, library automation software and digital library software;

o To identify ICT skills for managing library resources by the college librarians ;

o To identify the skills for managing ICT based library services by the college Librarians; and

o To identify the opinion of the college librarians towards the application of ICT in the College Libraries.

o To identify the barriers associated with the implementation of ICT in the college libraries of Assam.

4. Scope and limitation of the study: The study covers 192 college libraries which are imparting general education in Assam. Colleges which are providing technical, medical, management, law and special subject or other colleges related to professional degree are excluded in the present study.

5. Research Methodology: The study will adopt a combined methodology of theories and the field work to identify the ICT skills among the Librarians and their attitude towards the application of ICT**.** For solving the research objectives, survey and interview method have used to collect the primary data through structure questionnaire from the college librarians. The questionnaires were distributed to the college librarians by personally or by e-mail and the same were received personally or through e-mail. The data obtained from the filled up questionnaires is classified, analyzed, tabulated and logically interpreted. Well

known statistical package SPSS has been used to find out the frequency, mean and standard deviation of the research objectives.

6. Result and Discussion:

6.1 Response Rate: The questionnaires were distributed to 192 colleges out of which 126 colleges have responded. The percentage of response rate is 65.6 which have been graphically presented in the Figure 1.

Figure 1: Response Rate

■ Respondents ■ Non Respondents
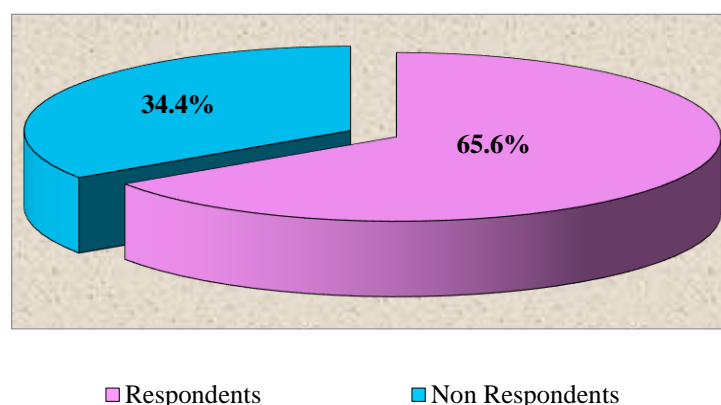
6.2 Skills on ICT based Application:

S.No	Description	5	4	3	2	1	Mean	Rank	Std. Dv
	Table 1: Skills on ICT-based Application (N=126)								
1	Windows Operating System	42 (33.3%)	58 (46.0%)	20 (15.9%)	4 (3.2%)	2 (1.6%)	4.0635	2	.87403
2	Linux Operating System	8 (6.3%)	22 (17.5%)	28 (22.2%)	32 (25.4%)	36 (28.6%)	2.4762	7	1.25037
3	MS Office	52 (41.3%)	62 (49.2%)	12 (9.5%)	0	0	4.3175	1	.64063
4	Photoshop	8 (6.3%)	30 (23.8%)	44 (34.9%)	20 (15.9%)	24 (19.0%)	2.8254	6	1.18037
5	Installation and customization of Software	10 (7.9%)	40 (31.7%)	38 (30.2%)	18 (14.3%)	20 (15.9%)	3.0159	5	1.19321
6	Database Management System	19 (15.1%)	40 (31.7%)	52 (41.3%)	12 (9.5%)	3 (2.4%)	3.4762	4	.94415
7	RFID Technology	4 (3.2%)	8 (6.3%)	32 (25.4%)	4 (3.2%)	78 (61.9%)	1.8571	8	1.18466
8	Barcode Technology	40 (31.7%)	32 (25.4%)	42 (33.3%)	4 (3.2%)	8 (6.3%)	3.7302	3	1.13429

Note: 5- Excellent, 4- Good, 3- Average, 2- Fair & 1- Poor

Table 1 shows the Skills of ICT based application by the librarians of the college libraries in Assam. The ICT based application has been group into MS Office, windows operating system, barcode technology, database management system, installation and customization of software, photoshop, linux operating system and RFID Technology. The highest mean value (4.3175) has arrived at the respondents' level of knowledge on MS Office followed by windows operating system (4.0635), barcode technology (3.7302), database

management system (3.4762), installation and customization of software (3.0159), Photoshop (2.8254), Linux operating system (2.4762) and RFID technology (1.8571).

6.3 Skills on Library Automation Software: Table-2 depicts the Knowledge of Library Automation Software among the college librarians of Assam. The integrated management software has been categorized into 6 parameters which are convenient to the college libraries in Assam. The highest mean value has been arrived at the SOUL (4.2778) followed by KOHA (2.5000). The mean value of LIBSYS and WINSIS has arrived at 1.7619 while NEWGENLIB and EVERGREEN has found the least response at 1.3492.

S.No	Description	5	4	3	2	1	Mean	Rank	Std. Dv
	Table 2: Skills on Library Automation Software								
1	LIBSYS	4 (3.2)	9 (7.1)	21 (16.7)	11 (8.7)	81 (64.3)	1.7619	3	1.15536
2	SOUL	56 (44.4)	55 (43.7)	12 (9.5)	0	3 (2.4)	4.2778	1	.82597
3	WINSIS	0	12 (9.5)	14 (11.1)	16 (12.7)	84 (66.7)	1.6349	3	1.01669
4	KOHA	12 (9.5)	15 (11.9)	42 (33.3)	12 (9.5)	45 (35.7)	2.5000	2	1.33716
5	NEWGENLIB	0	0	22 (17.5)	0	104 (82.5)	1.3492	4	.76229
6	EVERGREEN	0	0	18 (14.3)	8 (6.3)	100 (79.8)	1.3492	4	.71908

Note: 5- Excellent, 4- Good, 3- Average, 2- Fair & 1- Poor

6.4 Skills on Digital Library Software: Table-3 depicts the Skills on Library Automation Software among the college librarians in Assam. The Digital Library Software have been categorized into 4 parameters such as Dspace, Greenstone, E-print and Fedora which are convenient to the college libraries in Assam. The highest mean value has been arrived at the DSpace (3.1984) followed by Greenstone (2.2063), E-print (1.5556) and the least response have arrived at Fedora (1.1667).

S.No	Description	5	4	3	2	1	Mean	Rank	Std. Dv
	Table 3: Skills on Digital Library Software								
1	DSpace	26 (20.6)	34 (27.0)	26 (20.6)	19 (15.1)	21 (16.7)	3.1984	1	1.37416
2	Greenstone	4 (3.2)	17 (13.5)	26 (20.6)	33 (26.2)	46 (36.5)	2.2063	2	1.16837
3	E-print	0	5 (4.0)	22 (17.5)	11(8.7)	88 (69.8)	1.5556	3	.91700
4	Fedora	0	3 (2.4)	0	12 (9.5)	111 (88.1)	1.1667	4	.53292

Note: 5- Excellent, 4- Good, 3- Average, 2- Fair & 1- Poor

6.5 Skills to Manage Electronic Resources: The electronic resources have been categorized as use of OPAC and Web OPAC, online journals, e-books, open access journals, online database, electronic thesis and dissertation (ETD), library website, library consortium and digital archive or subject gateway. The respondents were asked to indicate their level of skills to manage various electronic resources. Accordingly, the results have been presented in the Table 4 with mean value and rank order. The highest mean value (3.8730) has arrived at the respondents' level of knowledge on use of OPAC and Web OPAC followed by online journals (3.7460), e-books (3.6905), open access journals (3.6587), online database (3.5000), electronic thesis and dissertation (3.4524), library website (3.4444), library consortium (3.4286) and digital archives or subject gateway (3.0476).

Table 4: Skills to Manage Electronic Resources (N=126)									
S.No	Description	5	4	3	2	1	Mean	Rank	Std. Dv
1	Use of OPAC and Web OPAC	40 (31.7%)	54 (42.9%)	16 (12.7%)	8 (6.3%)	8 (6.3%)	3.8730	1	1.12416
2	Library Website	23 (18.3%)	52 (41.3%)	21 (16.7%)	18 (14.3%)	12 (9.5%)	3.4444	7	1.21692
3	E-books	32 (25.4%)	51 (40.5%)	23 (18.3%)	12 (9.5%)	8 (6.3%)	3.6905	3	1.14168
4	Online Journals	32 (25.4%)	56 (44.4%)	23 (18.3%)	4 (3.2%)	11 (8.7%)	3.7460	2	1.13797
5	Online Database	27 (21.4%)	38 (30.2%)	45 (35.7%)	3 (2.4%)	13 (10.3%)	3.5000	5	1.16447
6	Electronic Thesis and Dissertation	36 (28.6%)	34 (27.0%)	19 (15.1%)	25 (19.8%)	12 (9.5%)	3.4524	6	1.34228
7	Digital Archive or Subject Gateway	16 (12.7%)	38 (30.2%)	32 (25.4%)	16 (12.7%)	24 (19.0%)	3.0476	9	1.30756
8	Open Access Journals	33 (26.2%)	46 (36.5%)	30 (23.8%)	5 (4.0%)	12 (9.5%)	3.6587	4	1.18769
9	Library Consortium	20 (15.5%)	52 (41.3%)	31 (24.6%)	8 (6.3%)	15 (11.9%)	3.4286	8	1.18948

Note: 5- Excellent, 4- Good, 3- Average, 2- Fair & 1- Poor

6.6 Skills for Managing ICT based Library Services: The ICT based library services have been categorized into information retrieval, circulation of the new addition list, electronic document delivery system, SDI, digital reference service, online indexing and abstracting services, development of institutional repositories and online bibliographic services. The results of the responses received from the respondents have been presented in the above Table 5 with mean value and rank order. The highest mean value (3.8968) has arrived at the respondents' level of knowledge on information retrieval followed by circulation of the new addition list (3.4603), electronic document delivery system (3.4365), SDI (3.1984), digital reference service (3.1667), online indexing and abstracting services (3.0873), development of institutional repositories (3.0317) and online bibliographic services (2.9444).

Table 5: Skills for Managing ICT-based Library Services (N=126)									
S.No	Description	5	4	3	2	1	Mean	Rank	Std. Dv
1	Information retrieval	40 (31.7%)	51 (40.5%)	24 (19.0%)	4 (3.2%)	7 (5.6%)	3.8968	1	1.06455
2	Electronic document delivery system	32 (25.4%)	39 (31.0%)	27 (21.4%)	8 (6.3%)	20 (15.9%)	3.4365	3	1.35939
3	Online indexing and abstracting services	21 (16.7%)	35 (27.8%)	28 (22.2%)	18 (14.3%)	24 (19.0%)	3.0873	6	1.36247
4	Digital reference service	20 (15.9%)	43 (34.1%)	21 (16.7%)	22 (17.5%)	20 (15.9%)	3.1667	5	1.33116
5	Online bibliographic services	18 (14.3%)	31 (24.6%)	29 (23.0%)	22 (17.5%)	26 (20.6%)	2.9444	8	1.35236
6	Development of institutional repositories	20 (15.9%)	44 (34.9%)	18 (14.3%)	8 (6.3%)	36 (28.6%)	3.0317	7	1.48559
7	SDI	26 (20.6%)	39 (31.0%)	20 (15.9%)	16 (12.7%)	25 (19.8%)	3.1984	4	1.42559
8	Circulation of the new addition list	28 (22.2%)	44 (34.9%)	28 (22.2%)	10 (7.9%)	16 (12.7%)	3.4603	2	1.27531

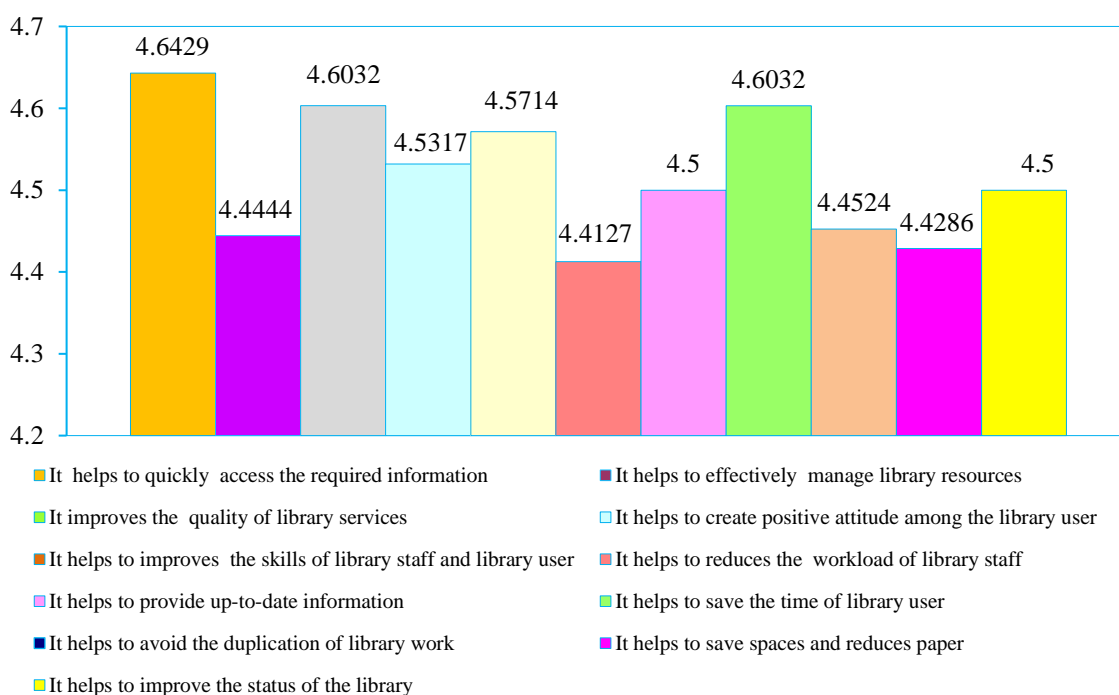*Note: 5- Excellent, 4- Good, 3- Average, 2- Fair & 1- Poor*

6.7 Opinion of the Librarians towards the application of ICT: To know the opinion of the librarians towards the application of ICT, 5 point Likert's scale- Strongly agree, Agree, No opinion, Disagree & 1- Strongly disagree have been used. Table-6 shows the attitude of the Librarians towards the application of ICT in the college libraries of Assam. The attitudes have been categorized into 12 parameters. The highest mean value (4.6429) has arrived in the form of 'It helps to quickly access the required information' followed by 'It improves the quality of library services' (4.6032), 'It helps to improves the skills of library staff and library user' (4.5714), 'It helps to create positive attitude among the library user'(4.5317), 'It helps to provide up-to-date information' and 'It helps to improve the status of the library'(4.5000), 'It helps to avoid the duplication of library work'(4.4524), 'It helps to effectively manage library resources'(4.4444), 'It helps to save spaces and reduces paper'(4.4286) and 'It helps to reduces the workload of library staff'(4.4127). The least response has been arrived at 'The utility of ICT in my institute is good' (4.0952). The respondents mean of the attitude towards the application of ICT in the college libraries of Assam have been graphically presented in the Figure 2.

S.No	Description	5	4	3	2	1	Mean	Rank	Std. Dv
	Table 6: Opinion of the Librarians towards the application of ICT								
1	It helps to quickly access the required information	90 (71.4)	30 (23.8)	4 (3.2)	1 (.8)	1 (.8)	4.6429	1	.66289
2	It helps to effectively manage library resources	80 (47.6)	42 (49.2)	4 (3.2)	0	0	4.4444	7	.55936
3	It improves the quality of library services	84 (66.7)	34 (27.0)	8 (6.3)	0	0	4.6032	2	.60768
4	It helps to create positive attitude among the library user	76 (60.3)	42 (33.3)	7 (5.6)	1 (.8)	0	4.5317	4	.64108
5	It helps to improves the skills of library staff and library user	84 (66.7)	34 (27.0)	4 (3.2)	4 (3.2)	0	4.5714	3	.70912
6	It helps to reduces the workload of library staff	68 (54.0)	46 (36.5)	8 (6.3)	4 (3.2)	0	4.4127	9	.75121
7	It helps to provide up-to-date information	80 (63.5)	34 (27.0)	7 (5.6)	5 (4.0)	0	4.5000	5	.77717
8	It helps to save the time of library user	87 (69.0)	30 (23.8)	7 (5.6)	2 (1.6)	0	4.6032	2	.67028
9	It helps to avoid the duplication of library work	76 (60.3)	38 (30.2)	7 (5.6)	3 (2.4)	2 (1.6)	4.4524	6	.83529
10	It helps to save spaces and reduces paper	76 (60.3)	34 (27.0)	11 (8.7)	4 (3.2)	1 (.8)	4.4286	8	.84312
11	It helps to improve the status of the library	76 (60.3)	38 (30.2)	11 (8.7)	1 (.8)	0	4.5000	5	.68993
12	The utility of ICT in my institute is good	64 (50.8)	34 (27.0)	11 (8.7)	10 (7.9)	7 (5.6)	4.0952	10	1.18948

5- Strongly agree, 4- Agree, 3- No opinion, 2- Disagree & 1- Strongly disagree

Figure 2: Opinion of the librarians towards the application of ICT

- It helps to quickly access the required information
- It helps to effectively manage library resources
- It improves the quality of library services
- It helps to create positive attitude among the library user
- It helps to improves the skills of library staff and library user
- It helps to reduces the workload of library staff
- It helps to provide up-to-date information
- It helps to save the time of library user
- It helps to avoid the duplication of library work
- It helps to save spaces and reduces paper
- It helps to improve the status of the library

6.8 Barriers Associated with the Implementation of ICT:

Table 7: Barriers Associated with the Implementation of ICT (N=126)

S.No	Description	Yes	%	No	%	Rank	Mean	Std. Dv
1	Inadequate training in ICT applications	84	66.7	42	33.3	2	.6667	.47329
2	Lack of IT infrastructure and network facility	71	56.3	55	43.7	3	.5635	.49793
3	Lack of support from authorities	41	32.5	85	67.5	8	.3254	.47039
4	Lack of budget for ICT	60	47.6	66	52.4	5	.4762	.50143
5	Lack of co-ordination among library Staff	18	14.3	108	85.7	10	.1429	.35132
6	Non availability of consultation services	42	33.3	84	66.7	7	.3333	.47329
7	Lack of upgrading ICT strategy	45	35.7	81	64.3	6	.3571	.48107
8	Lack of interest in learning ICT application	23	18.3	103	81.7	9	.1825	.38783
9	Overload of work	62	49.2	64	50.8	4	.4921	.50193
10	Erratic Power supply	60	47.6	66	52.4	5	.4762	.50143
11	Lack of IT skilled manpower	103	81.7	23	18.3	1	.8175	.38783

It shows that out of 126 surveyed libraries, the highest 103 (81.7%) of libraries have faced problems due to lack of IT skilled manpower. Subsequently, 84 (66.7%) libraries have faced problem caused by inadequate training in ICT applications whereas 71 (56.3%) libraries have lack of IT infrastructure and network facility; 62 (49.2%) libraries have work overload; 60 (47.6%)of each library have lack of budget for ICT and erratic power supply; 45 (35.7%) libraries have lack of upgrading ICT strategy; 42 (33.3%) libraries have non availability of consultation services; 41 (32.5%) libraries have lack of support from authorities; 23 (18.3%) libraries have lack of interest in learning ICT application and 18 (14.3%) libraries have lack of co-ordination among library staff.

7. Conclusion: Findings of the study have revealed that the level of knowledge on MS Office has found the highest skilled ICT based application among the librarians. In relation with skills on library automation software, the highest number of librarians has skilled on SOUL library integrated management software. For building institutional repository, maximum librarians have skilled on Dspace. Managing electronic resources is an important aspect of day to day activities in libraries; it is found that maximum librarians have skilled on the use of OPAC and Web OPAC. Level of knowledge on information retrieval is found the maximum response for managing the ICT based library services. The attitude of the librarians towards the application of ICT is found highest on quickly access the required information. The librarians have found sufficient ICT skills to manage the electronic resources and services and nearly all the librarians have the skill to manage e-resources of OPAC and Web OPAC, online journals, open access journals, e-book etc. Skills and technology can help to fulfill the demands of information seekers. The study reveals that overall ICT skills of the librarians are not adequate to cope up with the present trend. The college librarians need to develop ICT skills to deal with the changing emerging technology. The college librarians should be trained on ICT and its applications so that they can able to provide better library services in the latest ICT environment.

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