

# Application of ICT in Academic Libraries: A Study on Opinion and Problems by LIS Professionals

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## Abstract

This study discusses about the opinion and problems by application of ICT in academic libraries among the library professionals in engineering colleges in Tamil Nadu. The relevant data were collected from the library professionals of the self financing engineering institutions situated in Kanchipuram and Thiruvallur district of Tamil Nadu. Out of 625 questionnaires distributed, 504 were responded. The response rate is 80.64%. It was found that for the most of the respondents, 'Lack of interest on the part of users' and 'No support from administration in training library professionals' are the major problems. The least preference was given for 'Fear of ICT applications'.

**Keywords:** Information and Communication Technology, Use of ICT, Problems as Applying ICT

## Introduction

Libraries which are considered only as the storehouses of knowledge have got a new outlook in the modern Information Communication Technology (ICT) era. The activities which had earlier been carried out manually in libraries with so much of pain and strain are now being carried out smoothly with the help of ICT with greater effectiveness. Library organisation, administration and other technical processing have become easier and more quantum of work could be done in a relaxed mood. ICT, which is the basis for the MBO, generates more results at a given time. University libraries are not exempted from the impact of ICT. Such libraries are very much interested in incorporating the latest ICT in their administrative functions, technical works and user services. University Grants Commission liberally sanctions the grants to the universities and other affiliated colleges to install the ICT facilities and generate a digital environment.

## Academic Library Services using ICT

Information played an important role in all societies since the dawn of civilisation. However, in recent years its increase in volume and accuracy as well as greater access, have significantly elevated its value in all aspects of social life. The world is undergoing an Information Communication Technology (ICT) revolution, a revolution that has enormous socio-economic implications for the developed and developing countries. Science and technology have undergone revolutionary changes in the recent past. The new information and communication technologies are among the driving forces of globalisation. They are bringing people together, and bringing decision makers unprecedented new tools for development. However, the gap between information 'haves' and 'have-nots' is widening, and there is a real danger that the world's poor will be excluded from the emerging knowledge-based global economy. Information and communication technologies form part of the functions of today's complex society. Without this, the present society would be inarticulate chaos devoid of direction and technology floods us with information and entertainment. The influence is tremendous in decisions of government, leap over national frontiers and stimulate trends in society especially in the field of education. ICT comprises a diverse set of technological tools and resources to create, disseminate, store and manage data and information.

## Review of Literature

Ahmad and Fatima (2009) identified that researcher are not getting proper training/ guidance and assistance from the staffs/ libraries, which is very necessary for

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the effective use of ICT products and services. The library should arrange and organise training programmes related to ICT. Library should provide initial orientation workshops and training for the researchers on ICT based services so that they can utilize these technologies to optimum level. Yusuf and Nkiko (2010) revealed that application of Information Communication Technology in organising library materials has in turn changed the role of cataloguers from merely providing bibliographic details of materials to that of supervision and other administrative functions, and in order to maintain relevance, librarians have been forced to build capacity in the area of Information Communication Technology. Sampath Kumar and Biradar (2010) found the lack of budget, manpower, skilled staff, and training are the main constraints for not automating library activities. Even though library professionals have shown a positive attitude towards the use of ICT applications and library automation, they need extensive and appropriate training to make use of ICT tools. Kavitha, Esmail, and Nagarajan (2011) analysed that ICT tools like multi-media projectors, Internet communication equipment, VCD were at very low level usage whereas CD-Rom, overhead projectors, LCD, laptops, and digital cameras are most preferred ICT tools by the respondents. Towards the performance of library services rendered by the institutions, it was poor for information retrieval.

Olaniyi (2013) recommends among others that government should encourage use of ICTs among the poultry farmers in the area and in Nigeria at large through its inclusion in the agricultural extension programme curriculum of different states. Hue and Ab Jalil (2013) stated in the field of education, to meet the ever-growing demands of modern life and the exponential growth of technological advancement, educators will invariably need to creatively find ways of incorporating ICT into their curricula. Bozdoğan and Özen (2014) further suggest that the perceived use of computers, experience, and confidence play significant role while lack of knowledge and skills, technical problems, and lack of confidence negatively influence ICT self-efficacy.

Ndibalema (2014) says that the important concept 'ICT as a pedagogical tool' needs an in-depth investigation by looking on teachers' willingness, confidence, motivation, feeling, thinking, belief, and actual practices through classroom observations including larger samples. It

is against this background that the researcher finds it important to investigate further about the problem. Antony and Vijayakumar (2015) analysed that the total numbers of women library professionals in these institutions were 35, of whom 31 respondents completed and returned the questionnaires; this represents 88.57% of the response rate. It is therefore recommended that the librarians all over the world need to update this skills and upgrade their service to meet the rising demand of this age. Oweghoro *et al.* (2015) studied the potentials to prepare healthcare professionals for dealing appropriately with internet-informed patients and restore their confidence. The Nigerian healthcare systems need to formulate policies on access and use of Internet-based health information by their patients. Rose and Kadvekar (2015) conducted the study which suggests ICT adoption model, very specific to higher education academia in India. The model is being tested already and has been recommended as a policy measure to the challenges faced in ICT adoption.

## Objectives of the Study

The following objectives are framed for the purpose of the present study:

1. To assess the problems using the Web technologies
2. To identify the opinion about ICT in library services
3. To identify the use of ICT application in libraries
4. To identify the use web applications in future
5. To identify the means of updating their knowledge in ICT environment by LIS professionals

## Methodology

The main aim of this study is to analyse opinion and problems while applying ICT in libraries by LIS professionals in engineering colleges in Tamil Nadu. The relevant data were collected from the library professionals of the engineering institutions situated in Kanchipuram (83 colleges) and Thiruvallur (43 colleges) district of Tamil Nadu. Out of 625 questionnaires distributed, 504 were responded. The response rate is 80.64%. The analyses were made by applying Chi-square test, correlations, mean, and standard deviation besides percentile analysis with using SPSS.

## Limitations of the Study

The findings of this study are based on the information provided by library professionals of self-financing engineering libraries of Tamil Nadu and they do not represent other institutions. 504 library professionals working in 126 self-financing engineering colleges situated in Kanchipuram and Thiruvallur in Tamil Nadu, participated in the study.

## Data Analysis and Interpretation

### Distribution of Questionnaires

Questionnaires were distributed among 625 library professionals in Coimbatore district and the response received are given in Table 1.

**Table 1: Questionnaires Distributed**

Sl.No.	Districts	No.of Colleges	Distributed	Received
1	Kanchipuram	83	410 (65.60)	308(49.28)
2	Thiruvallur	43	215(34.40)	196(31.36)
	Total	126	625(100)	504(80.64)

(Figures in Parentheses denote percentage)

Table 1 shows the distribution questionnaires among the library professionals in the self-financing engineering colleges in Kanchipuram district and Thiruvallur district. A total of 83 colleges in Kanchipuram district and 43 colleges in Thiruvallur district are available.

Nearly 410 questionnaires were distributed among all the library professionals working in the engineering colleges in the Kanchipuram district and 308 (75.12%) duly filled responses were replied by the professionals. Further, totally 215 questionnaires were distributed among the library professionals in the engineering colleges in the Thiruvallur district and 196 (91.16%) were replied duly filled.

It is pointed out from the table that totally 625 questionnaires were distributed among the library professionals in the both Kanchipuram and Thiruvallur districts and 504 were replied by the respondent. The overall response rate is 80.64%.

### Problems Faced by the Library Professionals in Applying ICT in libraries

The problems faced by the library professionals in applying ICT in libraries, have been analysed based on the opinion given by the respondents and it is shown in Table 2.

**Table 2: Problems Faced by the Library Professionals in Applying ICT in library**

Sl. No	Problems	SD	D	NO	A	SA	WAM	Std.Dev.	Rank
1	Insufficient funds	73 (14.48)	33 (6.55)	36 (7.14)	87 (17.26)	275 (54.56)	3.91	1.476	3
2	Inadequate trained staff in ICT application	93 (18.45)	45 (8.93)	33 (6.55)	94 (18.65)	239 (47.42)	3.68	1.568	8
3	Increasing operation cost of ICT application	102 (20.24)	23 (4.56)	45 (8.93)	80 (15.87)	254 (50.40)	3.72	1.588	7
4	Lack of ICT knowledge on the part of users	61 (12.10)	43 (8.53)	17 (3.37)	99 (19.64)	284 (56.35)	4.00	1.425	1
5	Lack of initiative on the part of library staff	50 (9.92)	45 (8.93)	58 (11.51)	100 (19.84)	251 (49.80)	3.91	1.363	2
6	Lack of standard Library management software	69 (13.69)	40 (7.94)	55 (10.91)	78 (15.48)	262 (51.98)	3.84	1.469	4
7	Lack of support from authorities	86 (17.06)	31 (6.15)	34 (6.75)	95 (18.85)	258 (51.19)	3.81	1.526	5
8	Library staff are not interested in ICT adoption	98 (19.44)	32 (6.35)	31 (6.15)	66 (13.10)	277 (54.96)	3.78	1.603	6

(Figures in the parentheses denote percentage)

(SD- Strongly Disagree, D-Disagree, NO- No Opinion, A-Agree, SA- Strongly Agree R-Rank)

It is observed from Table 2 that the respondents preferred 'Lack of ICT knowledge on the part of users' as the first priority. 'Lack of initiative on the part of library staff' and 'Insufficient funds' are the second and third preferences indicated by the library professionals. The least preference was given for 'Inadequate trained staff in ICT application'. The WAM value of all the variables ranges between 3.68 and 4.00. It can be inferred that all the eight variables lies between 'Agree' and 'Strongly Agree'. The deviation of opinion ranges between 1.363 and 1.603.

### Problems Faced by Library Professionals in Applying ICT in library Vs Districts

The problems faced by the library professionals in applying ICT in library vs district wise have been analysed based on the opinion given by the respondents and it is shown in Table 3.

It can be seen from Table 3 that the Kanchipuram district respondents have given 'Insufficient funds' as the first priority. 'Lack of ICT knowledge on the part of users' and 'Lack of initiative on the part of library staff' are second and third preferences indicated by the professionals. The least preference was given by them for 'Increasing operation cost of ICT application'. The mean value of all the variables ranges between 3.76 and 3.94. The deviation of opinion ranges between 1.356 and 1.564. In Thiruvallur district 'Lack of ICT knowledge on the part of users' has been indicated as the first priority while 'Lack of initiative on the part of library staff' and 'Insufficient funds' are the second and third preferences indicated. The least

preference was given to 'Inadequate trained staff in ICT application'.

Further, Chi square test has been administered to identify the significance. The calculated value has been shown in Table 3. Table value is 9.488 at 5% level of significance. The calculated value for all the values except the variables like 'Inadequate trained staff in ICT application' and 'Lack of standard Library management software' were less than the table value which indicated the variables are insignificant in difference opinion between Kanchipuram and Thiruvallur districts towards problems faced by the library professionals in applying ICT in library.

### Opinion Regarding the ICT Application in their Library

Opinion regarding the ICT application in their library has been analysed based on the responses among the library professionals and it is shown in Table 4.

It is observed from Table 4 that the respondents preferred 'Help to improve communication' as the first priority. 'Disturbs routine work of the library' and 'Makes integration within the library' are the second and third preferences indicated by the library professionals also. The least preference was given for 'Facilitates quick access to current data.' The WAM value of all the variables ranges between 4.04 and 4.35. It can be inferred that all the ten variables lies between 'Agree' and 'Strongly Agree'. The deviation of opinion ranges between 1.116 and 1.386.

**Table 3: Problems faced by the Library Professionals in applying ICT in library Vs Districts**

Sl. No.	Problems	Kanchipuram Districts			Thiruvallur District			Chi.V
		M	SD	R	M	SD	R	
1	Insufficient funds	3.94	1.452	1	3.84	1.533	3	3.862
2	Inadequate trained staff in ICT application	3.78	1.527	7	3.43	1.640	8	9.561
3	Increasing operation cost of ICT application	3.76	1.564	8	3.62	1.645	6	3.357
4	Lack of ICT knowledge on the part of users	3.92	1.486	2	4.19	1.255	1	6.508
5	Lack of initiative on the part of library staff	3.90	1.356	3	3.93	1.384	2	3.051
6	Lack of standard Library management software	3.86	1.454	4	3.79	1.507	5	11.559
7	Lack of support from authorities	3.82	1.545	6	3.79	1.485	4	5.961
8	Library staff are not interested in ICT adoption	3.86	1.554	5	3.58	1.704	7	4.910

(M-Mean, SD-Standard Deviation, R-Rank) Degrees of Freedom: 4, Table Value: 9.488

### Opinion regarding the ICT application in their Library Vs Districts

Opinion regarding the ICT application in their library vs district wise has been analysed based on the responses among the library professionals and it is shown in Table 5.

It can be seen from Table 5 that the Kanchipuram district respondents have given 'Disturbs routine work of the library' as the first priority. 'Help to improve communication' and 'Makes integration within the library' are second and third preferences indicated by the Kanchipuram district library professionals. The least

**Table 4: Opinion Regarding the ICT Application in their Library**

Sl. No.	Attitude	SD	D	N O	A	SA	WAM	Std. Dev.	Rank
1	Facilitates quick access to current data.	55 (10.91)	41 (8.13)	21 (4.17)	100 (19.84)	287 (56.94)	4.04	1.386	10
2	Improve quality of library service	32 (6.35)	44 (8.73)	25 (4.96)	91 (18.06)	312 (61.90)	4.20	1.245	6
3	Help to enhance knowledge and skills of library professional	29 (5.75)	29 (5.75)	25 (4.96)	103 (20.44)	318 (63.10)	4.28	1.134	4
4	Increased job satisfaction of library professional	23 (4.56)	28 (5.56)	51 (10.12)	87 (17.26)	315 (62.50)	4.04	1.340	9
5	Help to improve communication	51 (10.12)	34 (6.75)	34 (6.75)	110 (21.83)	275 (54.56)	4.35	1.116	1
6	Improve the status of library	23 (4.56)	29 (5.75)	31 (6.15)	86 (17.06)	335 (66.47)	4.23	1.233	5
7	Makes an integration within the library	34 (6.75)	28 (5.56)	50 (9.92)	68 (13.49)	324 (64.29)	4.29	1.160	3
8	Reduce workload of library professional	45 (8.93)	26 (5.16)	39 (7.74)	82 (16.27)	312 (61.90)	4.17	1.296	8
9	Disturbs routine work of the library	23 (4.56)	37 (7.34)	33 (6.55)	83 (16.47)	328 (65.08)	4.30	1.154	2
10	Affects regular budgeting provision	34 (6.75)	34 (6.75)	33 (6.55)	112 (22.22)	291 (57.74)	4.17	1.222	7

(Figures in the parentheses denote percentage)

(SD- Strongly Disagree, D-Disagree, N.O- No Opinion, A-Agree, SA- Strongly Agree)

**Table 5: Opinion Regarding the ICT application in Library Vs Districts**

Sl. No.	Attitude	Kanchipuram District			Thiruvallur District			Chi. V
		M	SD	R	M	SD	R	
1	Facilitates quick access to current data.	4.01	1.426	10	4.11	1.288	8	3.597
2	Improve quality of library service	4.23	1.234	4	4.13	1.273	7	1.798
3	Help to enhance knowledge and skills of library professional	4.21	1.184	6	4.43	.993	1	5.299
4	Increased job satisfaction of library professional	4.08	1.313	9	3.95	1.402	10	1.359
5	Help to improve communication	4.32	1.156	2	4.41	1.018	2	2.584
6	Improve the status of library	4.23	1.246	5	4.24	1.208	4	1.893
7	Makes an integration within the library	4.30	1.183	3	4.29	1.107	3	6.080
8	Reduce workload of library professional	4.21	1.271	7	4.08	1.354	9	1.908
9	Disturbs routine work of the library	4.34	1.098	1	4.21	1.278	6	6.260
10	Affects regular budgeting provision	4.16	1.243	8	4.21	1.173	5	5.911

(M-Mean, SD-Standard Deviation, R-Rank) Degrees of Freedom:4, The table value:9.488

preference was given by them for 'Facilitates quick access to current data'. The mean value of all the variables ranges between 4.01 and 4.34. The deviation of opinion ranges between 1.098 and 1.426.

In case of Thiruvallur district respondents, 'Help to enhance knowledge and skills of library professional' has been indicated as the first priority while 'Help to improve communication' and 'Makes an integration within the library' are the second and third preferences indicated by Thiruvallur district library professionals. The least preference was given to 'Increased job satisfaction of library professional'.

Further, Chi square test has been administered to identify the significance. The calculated value has been shown in Table 5. Table value is 9.488 for 5% level of significance. The calculated value for all the values were less than the table value which indicated the variables are insignificant in difference opinion between Kanchipuram and Thiruvallur districts towards opinion regarding the ICT application in the libraries.

### Opinion on Problems in Implementing the ICT Application in your Library

Opinion on problems in implementing ICT application in their library has been analysed based on the responses among the library professionals and it is shown in Table 6.

It is observed from Table 6 that the respondents preferred 'Lack of co-ordination among library staff' as the first priority. 'Lack of scope for library professionals due to ICT applications' and 'No support from administration in training library professionals' are second and third preferences indicated by the library professionals. The least preference was given for 'Fear of ICT applications'. The WAM value of all the variables ranges between 3.55 and 4.05. It can be inferred that all the nine variables lies between 'Agree' and 'Strongly Agree'. The deviation of opinion ranges between 1.179 and 1.641.

**Table 6: Opinion on Problems in Implementing the ICT application in your Library**

Sl. No.	Opinions	SD	D	NO	A	SA	WAM	Std.Dev.	Rank
1	Inadequate training in ICT applications	89 (17.66)	40 (7.94)	40 (7.94)	82 (16.27)	253 (50.20)	3.73	1.556	6
2	Lack of infrastructure	91 (18.06)	39 (7.74)	48 (9.52)	87 (17.26)	239 (47.42)	3.68	1.552	7
3	No support from administration in training library professionals	71 (14.09)	56 (11.11)	33 (6.55)	71 (14.09)	273 (54.17)	3.83	1.515	3
4	Lack of support from authorities for implementing ICT applications in library	87 (17.26)	31 (6.15)	31 (6.15)	94 (18.65)	261 (51.79)	3.82	1.533	5
5	Lack of co-ordination among library staff	28 (5.56)	45 (8.93)	35 (6.94)	162 (32.14)	234 (46.43)	4.05	1.179	1
6	No initiative from professional associations to conduct specialised training programs	105 (20.83)	30 (5.95)	44 (8.73)	87 (17.26)	238 (47.22)	3.64	1.596	8
7	Lack of scope for library professionals due to ICT applications	46 (9.13)	56 (11.11)	45 (8.93)	93 (18.45)	264 (52.38)	3.94	1.371	2
8	Lack of interest on the part of users	72 (14.29)	50 (9.92)	37 (7.34)	85 (16.87)	260 (51.59)	3.82	1.497	4
9	Fear of ICT applications	120 (23.81)	26 (5.16)	44 (8.73)	85 (16.87)	229 (45.44)	3.55	1.641	9

(Figures in the parentheses denote percentage)

(SD- Strongly Disagree, D-Disagree, N.O- No Opinion, A-Agree, SA- Strongly Agree)

### Correlations Among Professionals Opinion on Problems in Implementing the ICT Application in your Library

In order to get correlation among the variables, the data have been calculated for correlations among the variables and the same has been shown in Table 7.

It can be seen from Table 7 that all the variables are correlated either positively. Few of the variables are significant at 99% level and 95% level in 2 tailed test except the correlation between 'You are getting recognition' and 'Personnel Management in your library' variables.

#### Highly Correlated Variables

- 'Lack of co-ordination among library staff' and 'inadequate training in ICT applications'.
- 'Fear of ICT applications' and 'Inadequate training in ICT applications'.

#### Least Correlated Variables

- 'Lack of support from authorities for implementing ICT applications in library' and 'Lack of infrastructure'.
- 'No initiative from professional associations to conduct specialised training Programs' and 'Lack of

support from authorities for implementing ICT applications in library'.

It can be inferred that the professionals are accepted and need training in ICT applications.

### Opinion on Problems in Implementing the ICT Application in your Library Vs Districts

Opinion on problems in implementing ICT application in their library has been analysed based on the responses among the library professionals and it is shown in Table 8.

It can be seen from Table 8 that the Kanchipuram district respondents have given 'Lack of co-ordination among library staff' the first priority. 'Lack of scope for library professionals due to ICT applications' and 'Lack of support from authorities for implementing ICT applications in library' are second and third preferences indicated by the Kanchipuram district library professionals. The least preference was given by them for 'Fear of ICT applications'. The mean value of all the variables ranges between 3.51 and 4.04. The deviation of opinion ranges between 1.205 and 1.658. In Thiruvallur district, respondents have given 'Lack of co-ordination among library staff' the first priority while 'No support

**Table 7: Correlations among Professionals Opinion on Problems in Implementing the ICT Application in your Library**

Opinions	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9
Inadequate training in ICT applications	3.73	1.556	1								
Lack of infrastructure	3.68	1.552	-.024	1							
No support from administration in training library professionals	3.83	1.515	-.007	-.083	1						
Lack of support from authorities for implementing ICT applications in library	3.82	1.533	.039	-.137**	-.002	1					
Lack of co-ordination among library staff	4.05	1.179	.288**	-.055	-.088*	-.038	1				
No initiative from professional associations to conduct specialised training programs	3.64	1.596	.104*	.107*	.020	-.106*	.077	1			
Lack of scope for library professionals due to ICT applications	3.94	1.371	.092*	.024	.082	.018	.002	-.095*	1		
Lack of interest on the part of users	3.82	1.497	.109*	.035	.098*	.027	-.014	-.074	.140**	1	
Fear of ICT applications	3.55	1.641	.225**	.051	.066	.056	.126**	.031	-.087*	-.023	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

**Table 8: Opinion on Problems in Implementing the ICT Application in your Library Vs Districts**

Sl. No.	Opinions	Kanchipuram District			Thiruvallur District			Chi sq
		M	SD	R	M	SD	R	
1	Inadequate training in ICT applications	3.71	1.549	7	3.79	1.578	5	1.837
2	Lack of infrastructure	3.72	1.544	6	3.59	1.572	8	4.158
3	No support from administration in training library professionals	3.74	1.564	5	4.04	1.375	2	6.319
4	Lack of support from authorities for implementing ICT applications in library	3.81	1.509	3	3.83	1.592	4	3.693
5	Lack of co-ordination among library staff	4.04	1.205	1	4.08	1.120	1	2.747
6	No initiative from professional associations to conduct specialised training programs	3.67	1.591	8	3.57	1.611	9	.831
7	Lack of scope for library professionals due to ICT applications	4.04	1.299	2	3.70	1.505	6	8.941
8	Lack of interest on the part of users	3.79	1.515	4	3.89	1.459	3	7.068
9	Fear of ICT applications	3.51	1.658	9	3.65	1.602	7	4.696

(M-Mean, SD-Standard Deviation, R-Rank) Degrees of Freedom: 4, The table Value: 9.488

from administration in training library professionals 'and 'Lack of interest on the part of users' are second and third preferences indicated by library professionals. The least preference was given by them to 'No initiative from professional associations to conduct specialised training programs'.

Further, Chi square test has been administered to identify the significance. The calculated value has been shown in Table 8. Table value is 9.488 for 5% level of significance the calculated value for all the values were less than the table value which indicated the variables are insignificant tin difference opinion between Kanchipuram

and Thiruvallur districts towards opinion on problems in implementing the ICT application in their library.

### Use Web Applications in Future Libraries

The task, use of web applications in future libraries has been analysed based on the responses among the library professionals and it is shown in Table 9.

It is observed from Table 9 that the respondents preferred 'Learning about user's information requirement' as the first priority. 'Mobile based Information Services'

**Table 9: Use of Web Applications in Future Libraries**

Sl. No	Use of Web Application	SD	D	NO	A	SA	WAM	Std. Dev.	Rank
1	Marketing library services	98 (19.44)	34 (6.75)	19 (3.77)	116 (23.02)	237 (47.02)	3.71	1.566	6
2	Receiving feedback about library services	87 (17.26)	25 (4.96)	44 (8.73)	102 (20.24)	246 (48.81)	3.78	1.512	5
3	Learning about users information requirement	33 (6.55)	36 (7.14)	22 (4.37)	115 (22.82)	298 (59.13)	4.21	1.212	1
4	Creating staff and student profiles	53 (10.52)	29 (5.75)	29 (5.75)	118 (23.41)	275 (54.56)	4.06	1.334	3
5	Explain your library digital presence	70 (13.89)	21 (4.17)	52 (10.32)	120 (23.81)	241 (47.82)	3.88	1.409	4
6	Mobile based Information Services	24 (4.76)	49 (9.72)	38 (7.54)	78 (15.48)	315 (62.50)	4.21	1.215	2

(Figures in the parentheses denote percentage)

(SD- Strongly Disagree, D-Disagree, NO- No Opinion, A-Agree, SA- Strongly Agree)

and 'Creating staff and student profiles' are second and third preferences indicated by the library professionals. The least preference was given for 'Marketing library services'. The WAM value of all the variables ranges between 3.71 and 4.21. It can be inferred that all the six variables lies between 'Agree' and 'Strongly Agree'. The deviation of opinion ranges between 1.212 and 1.566.

### Use Web Applications in Future Libraries Vs Districts

The use of web application in future libraries vs district wise has been analysed based on the responses among the library professionals and it is shown in Table 10.

It can be seen from Table 10 that the Kanchipuram district respondents have given 'Mobile based Information Services' first priority. 'Learning about user's information requirement' and 'Creating staff and student profiles' are second and third preferences indicated by the Kanchipuram district library professionals. The least preference was given by them for 'Marketing library services'. The mean value of all the variables ranges between 3.73 and 4.22. The deviation of opinion ranges between 1.195 and 1.551.

In Thiruvallur District, 'Learning about users information requirement' has been indicated as first priority 'Mobile based Information Services' and 'Creating staff and student profiles' are second and third preferences indicated by Thiruvallur district library professionals.

**Table 10: Use Web Applications in Future Libraries Vs Districts**

Sl. No.	Use of Web Application	Kanchipuram District			Thiruvallur District			Chi.V
		M	SD	R	M	SD	R	
1	Marketing library services	3.73	1.551	6	3.67	1.603	6	.693
2	Receiving feedback about library services	3.82	1.471	5	3.69	1.605	5	5.738
3	Learning about users information requirement	4.18	1.243	2	4.28	1.136	1	1.284
4	Creating staff and student profiles	4.05	1.323	3	4.08	1.364	3	3.919
5	Explain your library digital presence	3.88	1.457	4	3.86	1.295	4	13.217
6	Mobile based Information Services	4.22	1.195	1	4.20	1.264	2	1.443

(M-Mean, SD-Standard Deviation, R-Rank) Degrees of Freedom:4, The table value: 9.488

**Table 11: Problems Facing When Using Web Technologies**

Sl. No.	Problems	SD	D	N	A	SA	WAM	Std. Dev.	Rank
1	Lack of knowledge among members	61 (12.10)	32 (6.35)	47 (9.33)	80 (15.87)	284 (56.35)	3.98	1.415	5
2	Lack of support from administrators	32 (6.35)	39 (7.74)	54 (10.71)	92 (18.25)	287 (56.94)	4.12	1.244	2
3	Lack of support from IT Departments	10 (1.98)	39 (7.74)	57 (11.31)	89 (17.66)	309 (61.31)	4.29	1.065	1
4	Lack of co-operation among library staff	47 (9.33)	42 (8.33)	31 (6.15)	67 (13.29)	317 (62.90)	4.12	1.361	3
5	Lack of time	49 (9.72)	47 (9.33)	27 (5.36)	83 (16.47)	298 (59.13)	4.06	1.376	4
6	Lack of interest among users	55 (10.91)	51 (10.12)	34 (6.75)	91 (18.06)	273 (54.17)	3.94	1.413	6

(Figures in the parentheses denote percentage)

(SD- Strongly Disagree, D-Disagree, NO- No Opinion, A-Agree, SA- Strongly Agree)

**Table 12: Problems Faced When Using Web Technologies Vs Districts**

Sl. No.	Problems	Kanchipuram District			Thiruvallur District			Chi.V
		M	SD	R	M	SD	R	
1	Lack of knowledge among members	4.00	1.379	3	3.93	1.502	5	4.981
2	Lack of support from administrators	4.07	1.269	5	4.23	1.178	2	2.104
3	Lack of support from IT Departments	4.30	1.048	1	4.26	1.108	1	2.163
4	Lack of co-operation among library staff	4.10	1.363	2	4.17	1.360	4	2.712
5	Lack of time	4.00	1.414	4	4.20	1.274	3	11.587
6	Lack of interest among users	3.98	1.400	6	3.87	1.446	6	2.464

(M-Mean, SD-Standard Deviation, R-Rank)Degrees of Freedom: 4, The table Value: 9.488

The least preference was given by them to 'Marketing library services'.

Further, Chi square test has been administered to identify the significance. The calculated value has been shown in Table 10. Table value is 9.488 for 5% level of significance. The calculated values for all the values except the variable 'Explain your library digital presence' were less than the table value which indicated the variables are insignificant in difference opinion between Kanchipuram and Thiruvallur districts towards use of web applications in future.

### Problems Faced When Using Web Technologies

The problems faced when using web technologies has been analysed based on the responses among the library professionals and it is shown in Table 11.

It is observed from Table 11 that the respondents preferred 'Lack of support from IT Departments' as the first priority. 'Lack of support from administrators' and 'Lack of co-operation among library staff' are second and third preferences indicated by the library professionals. The least preference was given for 'Lack of interest among users'. The WAM value of all the variables ranges between 3.94 and 4.29. It can be inferred that all the six variables lies between 'Agree' and 'Strongly Agree'. The deviation of opinion ranges between 1.065 and 1.415.

### Problems Faced When Using Web Technologies Vs Districts

The problems faced when using web technologies vs district wise has been analysed based on the responses

among the library professionals and it is shown in Table 12.

It can be seen from Table 12 that the Kanchipuram district respondents have given 'Lack of support from IT Departments' first priority. 'Lack of co-operation among library staff' and 'Lack of knowledge among members' are second and third preferences indicated by the library professionals. The least preference was given by them for 'Lack of interest among users'. The mean value of all the variables ranges between 3.98 and 4.30. The deviation of opinion ranges between 1.048 and 1.414. In Thiruvallur district, 'Lack of support from IT Departments' has been indicated as the first priority while 'Lack of support from administrators' and 'Lack of time' are second and third preferences indicated by library professionals. The least preference was given by them to 'Lack of interest among users'.

Chi square test has been administered to identify the significance. The calculated value has been shown in Table 12. Table value is 9.488 for 5% level of significance. The calculated values for all the values except 'Lack of time' were less than the table value which indicated the variables are significant in difference opinion between Kanchipuram and Thiruvallur districts towards problems faced while using web technologies.

### Conclusion

The application of information and communication technology has greatly influenced the teaching and research community to get access to information irrespective of space and cost factors. The library professionals must utilise the application of information and communication technology in library activities like automation,

e-resources and digitisation techniques. The information communication technology is highly important factor not for profit, but for individual academic institution to develop and promote technical improvement. Nowadays more library professionals are well qualified and well trained to apply the ICT and library operation and library services. The professionals are able to attract users with the timely assistance to retrieve any kind of information from anywhere at any time. In view of the findings it can be concluded that the library professionals must be aware of and utilise the information communication technology facilities and tools in their day to day library activities and services in their respective libraries. Library professionals can shine and survive with multi personality skills to handle the efficiency of information using the Information and Communication Technology. Library professionals must create the awareness of ICT and its tools through many programmes like orientation, seminar and workshops to utilise the resources and services.

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