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Utilization of Information Communication Technology (ICT) by Physical Sciences Faculty Members of State Universities in Tamil Nadu

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***Abstract* - Information is considered as the first element in the search for wisdom in a human chain process. Thus, documentation produces information, which is converted into documentation and again into information. In every country, from the less developed to the most advanced, a large amount of scientific and technological information is locally produced or information origin is stored in some form or another for the benefit of users. Knowledge is used in directing the further advancement and organization of knowledge. Information has become a vital commodity required at all levels of the process.**
***Keywords:* Information Communication Technology, Awareness, Faculty, Physical Sciences, Tamil Nadu.**

I.INTRODUCTION

Currently information technology (IT) is a matter of hot discussion almost in all areas including Library and Information Science teaching and practice. Basically IT combines technology, telecommunication technology, audio-visual technology and reprography.

The use information technology has called for radical changes in the sphere of library and information services in different institution and organizations. Another reason for it application is that today large quantity of information is available in electronic form and this trend will be increasing in future. To utilize these information sources, computer and other accessories are essentially needed. Therefore, any library, which wants to keep pace with the growth in new information technology and is conscious about serving the clientele effectively, cannot keep away from the use of information technology.

Physical Sciences

Physical Sciences covers Mathematics, Astronomy, Physics, Chemistry, Materials Science, Earth Sciences and Geography. (Collins Discovery Encyclopedia, 1st edition © Harper Collins Publishers 2005).

II.RELATED STUDIES

Ramesh.R et al., (2010) found in their study on e-mail use behavior among the users in engineering college in Puducherry that 95% of female and 75% male respondents having their own e-mail address, 43.12% of the respondents most commonly used g-mail service of Google.

Nafiz Zaman Shuva, Rowshon Akhter (2011) have conducted a study on internet usage by students of Dhaka University library, Bangladesh. It is found in their study that among the total number of 461 respondents from the faculty of arts, more than 98% of the respondents use the internet for communication while 67% of respondents for academic purpose. Towards the problems encountered using internet by the respondents found that slow internet access speed was the major problem with 95.23% and it was followed by virus problem. Regarding the opinion of the respondents on satisfaction with internet facilities showed that 50% of the respondents 'some what satisfied' and 7.59% were not at all satisfied' with internet facilities.

Kannan.K and Abilash.S (2011) discussed in their study that Google, Yahoo and AltaVista are rated as better search engine for retrieval of information on internet regarding search quarries of law of library science, library resources sharing and networking, library extension service, knowledge management and library association in India.

Stephen Kyakulumbye, Maurice Olobo, Vincent Kisenyi. (2013) the study was an extension of a similar study by (1) conducted among local government staff in Uganda and was ex-tended among staff at Uganda Christian University. A total of 108 respondents out of the accessible 130 representing 83.0% response rate was realized after administering the study instruments over a period of two (2) weeks. Of the 108 respondents, 70.4% constituted staff in administration, 8.0% heads of sections and 21.6% academic staff. Data was analyzed using different statistical techniques which included descriptive statistics, mainly mean and standard deviation, Pearson Product Moment Correlation Coefficient to establish the relationships between variables and multiple regression analysis to establish causal influence of factors on ICT utilization. At bivariate level, organizational support systems, ICT infrastructure and users' perceptions had a strong relationship on ICT utilization. Multiple regression analysis revealed that only user perceptions (perceived ease of use) and user knowledge and skills had a significant causal influence on ICT utilization. The researcher Recommended that UCU strategic management cater for personnel ICT capacity building to improve their skills and therefore enhance ICT usability. Further research may consider segmenting staff by faculties and study how utilization levels differ in using ANOVA. A comparative study can also be undertaken to assess UCU and any other private university.

III.OBJECTIVES OF THE STUDY

1. To find out the user frequency of library visit by Physical Sciences faculty members of State Universities in Tamil Nadu.
2. To find out the respondents time spent for accessing ICT resources.
3. To find out the respondents purpose of using ICT resources.
4. To identify the respondents using ICT tools in their teaching and learning process.

IV.METHODOLOGY

For this study Stratified Random Sampling method was adopted for collecting primary data. A sample including faculty members were chosen from the sample size is 272 respondents.

The samples selected are from state universities in Tamil Nadu. In this study ten universities were selected randomly. They are Alagappa University, Annamalai University , Bharathidhasan University ,Bharathiyar University ,Madurai Kamaraj University ,Manonmaniam Sundaranar University ,Mother Teresa University, Madras University, Periyar University and Thiruvalluvar University.

V. LIMITATION OF THE STUDY

This study is restricted to only (10) ten universities in Tamil Nadu. Samples were collected from Physics, Chemistry and Earth Sciences faculty members only.

VI.DATA ANALYSIS AND INTERPRETATION

TABLE 1 DISTRIBUTION OF RESPONDENTS ACCORDING TO GENDER

Gender	No. of Respondents	Percentage %
Male	180	66
Female	92	34
Total	**272**	**100**

Table 1 shows the gender wise distribution of the sample. If can be noted that male respondents are (66%) and (34%) of them are female respondents. From above discussion it is noted that majority of respondents are male.

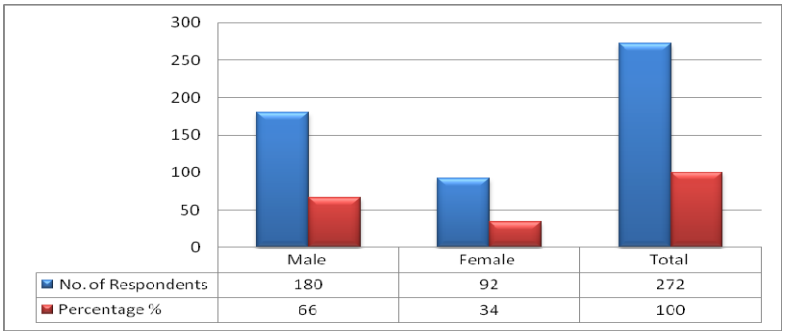

Fig. 1 Distribution of respondents according to gender

TABLE 2 DISTRIBUTION OF RESPONDENTS ON THE BASIS OF DEPARTMENT

Department	No. of Respondents	Percentage %
Physics	96	35.29
Chemistry	115	42.27
Geology / Earth Science	61	22.42
Total	272	100

The above table indicates that out of total 272 respondents, (35.29%) of them are from Physics, (42.27%) of them belong to Chemistry, (22.42%) of then belong to Geology / Earth science. It is concluded that majority of them belong to Chemistry department.

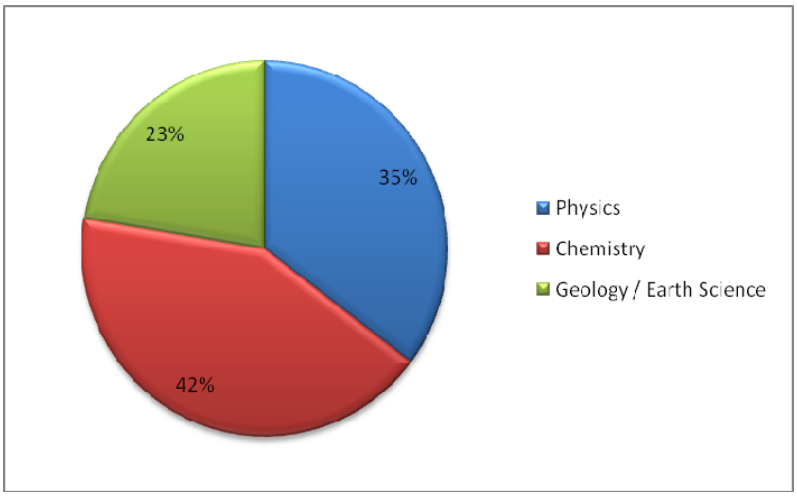

Fig. 2 Distribution of Respondents on the basis of department

TABLE 3 DISTRIBUTION OF SAMPLE ISSUED AND RECEIVED

Category	Questionnaires Issued	Valuable Questionnaires received
Assistant Professor	174 (47.93)	124 (45.58)
Associate Professor	105 (28.92)	85 (31.25)
Professor	84 (23.14)	63 (23.16)
Total	363 (100.00)	272 (74.92)

It is inferred from above table that 363 samples were selected and questionnaires were distributed. Out of 363 questionnaires 272 were received. Out of 272 respondents 124 (45.58%) respondents are Assistant Professors, 85 (31.25%) respondents are Associate Professors and 63 (23.16) respondents are Professors.

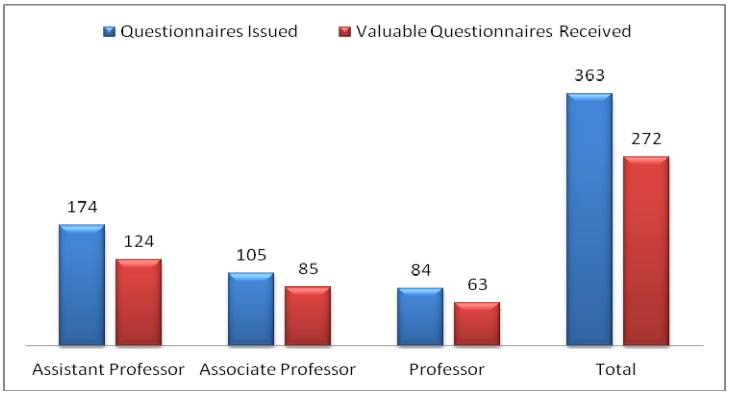

Fig3 Distribution of sample issued and received

TABLE 4 DISTRIBUTION OF RESPONDENTS ACCORDING TO HOURS SPENT IN LIBRARY

Hours spent in library per day	No. of Respondents	Percentage
1-2 hours	83	30.5
2-3 hours	91	33.45
3-4 hours	60	22.02
Above 4 hours	38	13.97
Total	**272**	**100**

Table 4 shows the hours spent in library by the respondents. (30.5%) them spend 1-2 hours, (33.45%) spend 2-3 hours, (22.05%) spend 3-4 hours (13.97%) spend more than 4 hours in library. From above discussion majority of users spend 1-4 hours in library per day.

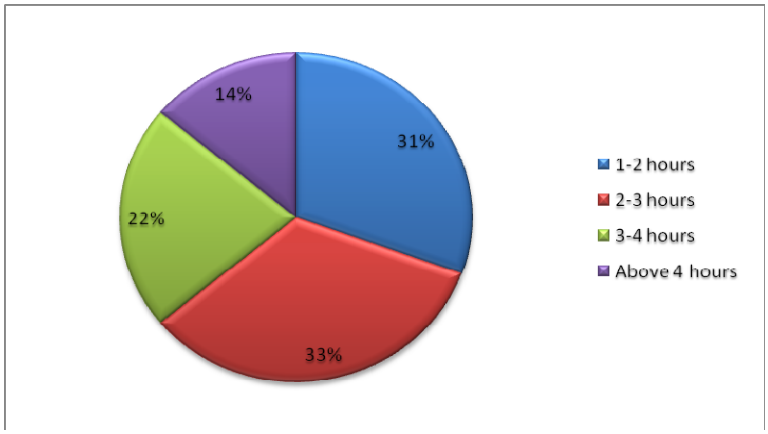

Fig 4 Distribution of respondents according to hours spent in library

TABLE 5 UNIVERSITY WISE RESPONDENTS ALL TO THEIR FREQUENCY OF LIBRARY VISIT

SL. No.	University	Daily	Every alternate day	Once in a week	Total
1	Alagappa	10	4	3	17
2	Annamalai	33	10	7	50
3	Bharathidhasan	10	8	3	21
4	Bharathiyar	7	6	3	16
5	Madurai Kamaraj	13	8	5	26
6	Manonmaniam Suntheranar	22	12	-	34
7	Mother Teresa	32	-	-	32
8	Madras	20	12	6	38
9	Periyar	4	8	1	13
10	Thiruvalluvar	25	-	-	25
	Total	176	68	28	272

Out of 272 respondents 176 (64.70%) use the library daily, 68 (25%) use, library every alternate day 28 (10.2%) use library once in a week. It is found that more than half of respondents of state universities are using the library daily.

TABLE 6 CATEGORY WISE RESPONDENT'S UTILIZATION OF ICT TOOLS IN THEIR TEACHING AND LEARNING PROCESS

ICT TOOLS	Assistant Professor	Associate Professor	Professor	Total
Laptop	72	41	31	144 (52.94%)
CD ROMS	68	43	34	145 (54.30%)
Video Conference	58	46	40	144 (52.94%)
LCD Projector	92	63	52	207 (76.10%)
Internet	103	69	58	230 (84.55%
Digital photo copier	47	29	19	95 (34.92%)
PDF Converter	104	76	51	231 (84.92%)

n=272

Table 6 indicates that the respondent's utilization of ICT tools in their teaching and learning process. Out of 272 respondents, 144 (52.94%) of respondents are using laptop in their teaching and learning process, 145 (53.30%) are using CD-ROM, 144 (52.94%) have been using video conference, 207 (76.10%) use LCD projector, 230 (84.55%) of them use internet, 95 (34.92%) of them use Digital photo copier, 231 (84.92%) of the respondents use PDF converter. It is concluded that more than half of the respondents use CD-ROM and Video conferencing in their teaching &

learning process. 70% of the respondents use LCD projection, internet and PDF converter in their teaching & learning process.

VII.FINDINGS

1. As per the survey majority of the respondents are male in this study.
2. Comparing various departments in Physical Sciences majority of the male respondents belong t Chemistry department.
3. It is found that more than 40 percent of the faculty members belong to Chemistry department.
4. It is found that 74.92 percent of sample questionnaires were received back from the respondents.
5. Research results reveal that 124 (45.58%) respondents are Assistant Professors, 85 (31.25%) respondents are Associate Professors and 63 (23.16) respondents are Professors
6. It is found that majority of the faculty members spend 1-4 hours in library per day.
7. Research survey indicates that more than half of respondents of state universities are using the library daily.
8. Research results show 53% use CD-ROM and Video conferencing70% of the respondents use LCD projection, internet and PDF converter in their teaching & learning process.

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