

ICT Skills and Attitude towards Information Seeking Behavior by Post Graduate Students of Distance Learning in Kuvempu University: A Study

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***Abstract** - Education is very important for the progress of individual and society. In these days the advent of Information and Communication Technology (ICT) in the Education sector plays an important role especially in the process of empowering the technology in to educational activities. The purpose of the study was to investigate distance students' skills and practices of using the new information and communication technologies (ICT) and information seeking behavior of Kuvempu University. The study shows that the respondents are aware of the fact that being computer and ICT tools are very important in their profession. Therefore, based on the results of the study recommended that the distance education programme offering universities/ academic institutions is to introduce information literacy classes within the academic period to enable and encourage successful information seeking methods so that relevancy to teaching and learning needs becomes the focus. Libraries to come up with advanced web based services to deliver up-to-date information.*

Key words: Kuvempu University, Information Communication Technology, Internet. Distance Learners, Post Graduate Students.

Introduction

Education is the foremost and top key area for ICT applications. Worldwide, institutions of higher learning have highlighted that apply of Information Communication Technology (ICT) in their teaching, learning and research process. ICT is often noticed as a channel for change; changes in teaching manners, changes in learning styles and changes in obtain information. Use of various ICT tools has become inevitable for scholars in learning. By using different modern ICT technologies in form of wireless networks, internet, WWW, search engines, websites, databases, and Web 2.0 Tools etc., learners can retrieve large amount of electronic information resources such as E-Books, E-Journals, E-Theses / Dissertations, Online Databases (Bibliographic), CD-ROM Database, E- Repository and Audio- Visual materials for learning. ICT is an important part of both formal and informal education for creating opportunities for lifelong learning. Several new ways of communicating with the students are now available, besides the traditional lectures, which make the location irrelevant. Faculty and students can now communicate with each other through e-mails, chat sessions, discussion

groups and video conferencing. Lecture notes, video presentations, power point presentations, cases, assignments and examinations can be made available through the Internet, CDs and videos.

Information seeking is essential reading for researchers and graduate students in information science, human-computer interaction, and education, as well as for designers of information retrieval systems and interfaces for digital libraries and archives. Libraries are the repositories of books as well as depositories of information and knowledge. It is needless to emphasize that information is indispensable for any human activity aiming at social progress. Information needs leads to information seeking in different levels, in different situations to individuals in an organizations. The user study with research on user aim to further understanding of information transfer. The transfer systems of all types to have implication for the organization of communication, the distributions of resources and the relationship between systems. The library and information services are for users and user's satisfaction.

Review Literature

Tury, Robinson and Bawden, (2015) elaborated in their paper on the information seeking behaviour of distance learners at University of London International Programmes. The study covered by 649 students of the university of London. The study showed that the majority of students (74%) sought information in order to prepare for exams and (65%) to complete their course work and assignments. The results elucidate that there was a significant relationship between distance learners' information-seeking activities and gender.

Ozdamar-Keskin, Ozata, and Banar (2015) attempted to identify the digital literacy competences and learning habits of learners enrolled in the open and distance education system of Anadolu University in Turkey. The study find that the distance learning students need training to use digital tools more efficiently for learning purposes. The study recommended arrange the training programmes to increase the use of digital tools for the purpose of effective learning and also to design learning environments to improve digital literacy of open and distance learners.

Satyanarayana and Medur (2015) conducted a study to identify the information and communication technologies used in open distance education system in general and Dr. B.R. Ambedkar Open University and to assess the impact of the technologies on the distance learning of BRAOU students. The study findout that 165 students out of 184 PG students used print technology in their learning. Surprisingly, majority of student no uses any non-print technology in the study because of lack of electronic educational media habit among students and lack of Equipment and Facilities at Study Centers .The study suggested that Induction meetings for newly admitted students every year should be held at study centers for orienting students on the useful of technology for student learning ,Providing the necessary equipment and facilities at most of the study centers, proper training for academic counsellors, on integrating counseling sessions with electronic media contents.

Alijani and Khasseh (2015) conducted a study on distance learners' familiarity with the concept of digital library: A case study of Virtual University of Shiraz, Iran ,Payame Noor University. This survey examines the familiarity of students at Virtual University of Shiraz (VUS). This research study used descriptive and survey methodology. Findings showed that 66 percent of distance students are not familiar with the concept of digital library. They believe that lack of a well-structured digital library has had a negative impact on the

academic achievement of students of Virtual University of Shiraz. Students have also expressed that the information resources provided by the university cannot meet all their educational and information needs. The study recommended that managers involved in distance education programs should develop and establish sufficient infrastructures to create a standard digital library for their distant students.

Millsa, Knezeka and Khaddage (2014) in their paper focuses on new prospective on information behavior in web 2.0 environments, including role of mobile access in bridging formal and informal learning. For this study, formal to informal learning was envisioned as a conceptual continuum in order to identify the relationships between formal to informal learning and mobile access, Information Seeking, and Information Sharing. The study suggest that an understanding of information behavior in technology-rich environments can help to answer pedagogical concerns associated with the following trends: shifts in control of instruction from teacher to student, student-driven informal learning activities that are often unguided, and interest in tapping into the strengths of information technology for a connection between school and home, as well as informal to formal learning.

Objectives

An objective of the present study is to;

- To study the purpose of information seeking and examine the information seeking strategies of the distance learners in general and students of Kuvempu University,
- To assess the library facilities and services available to and use by distance learners and to know the level of satisfaction on the provision of library facilities and services.
- To identify the ICT skills, awareness and attitudes of the distance learners on their information seeking behavior
- To identify the ICT skills and awareness of the information seeking behavior of distance learning students,
- To identify the most often used traditional and electronic information sources by distance learning students,
- To identify the problems faced by the distance learners while seeking information.

Distance Education in Kuvempu University

Kuvempu University is a young affiliating University in Karnataka, established in 1987. It is located at JnanaSahyadri campus, Shankaraghatta, at a distance of 28 kms from Shivamoga District, in Karnataka, enjoying the boundaries of nature providing an ideal atmosphere for higher education. It has more than 41 post graduate departments in the campus offering higher education in various disciplines. The essential of distance education was felt by the university when a large number of students who wanted seats for graduate /post graduate studies in the university could not be accommodated in the regular PG/UG programmes. Keeping in mind the need of the hour, the university has started the distance education courses. The university believes that distance education is an equally good avenue to be made available to interested students. The degrees being offered by the Directorate of the Distance Education of the university are equivalent to that of regular degree courses. Currently, the DDE is offering several courses in UG, PG and Diploma levels.

Kuvempu University has created a distinctive academic profile for itself in distance education. Striving for academic excellence and creativity this distance university is preferred for its post graduate courses in faculties of arts, commerce, science, law and management.

These programmes are designed to be learner friendly and are extremely cost effective; admission to these programmes is done online. The university has a wide network of study centres in and around the state of Karnataka. Students can also contact regional centres for application forms for admission and examination.

Methodology

The present study has tried to understand the ICT Skills and information seeking behaviour of the Post Graduate Distance Learners of Kuvempu University in the emerging electronic environment. This study of the research used questionnaire-based survey method in order to achieve the above objectives. The respondent population for this study was drawn from the category of PG students of distance learning of the region selected for the study. Part-time PG students pursuing Master degree were considered for the present study and the study covered both first year PG students and second year PG students. As per the records maintained in the respective University and the information given by the respective University librarian, the number of students pursuing master degree is 21743. By using Krejcie & Morgan formula of sample size with a margin of error 0.025 and with a confidence level of 95%. The total population of this study was 21743. For this study stratified Random sampling method was adopted for collecting Primary data. A sample including Post graduate students were chosen and hence the sample size is 1435. For this purpose a well-structured questionnaire was designed to collect the data from the Post Graduate Distance Learners of Kuvempu University. 1435 questionnaires were distributed in Postgraduate distance students of Kuvempu University, out of which 1435 duly filled in questionnaires were received back. The collected data were classified, analysed and tabulated by using statistical methods.

Data Analysis and Interpretation

The analysis of the collected data revealed a detailed picture of the respondents' awareness, attitudes and habits towards the application of ICT tools in their study.

Gender wise Distribution

Table-1: Gender wise Distribution

Sl. No	Gender	Discipline			
		Social Science (N=806)	Science/ Technology (N=187)	Commerce/ Management (N=442)	Total (N=1435)
1	Male	329(40.8%)	77(41.1%)	185(41.9%)	591(41.2%)
2	Female	477(59.2%)	110(58.9%)	257(58.1%)	844(58.8%)
3	Test Statistics	$\chi^2 = .127, df=2, p=.939$			

It may be seen from the above table that the female respondents are more compared to male respondents in all the three faculties. It shows, the scores are 844 (58.8%) and 591 (41.2%) for female and male respondents in all the three faculties respectively. To have a better view on analysis the χ^2 -test conducted for 2 d.f. at the 5% level of significance shows that there is no significant relationship between these groups of frequencies ($\chi^2=0.127$, $p=.939 > 0.05$).

Age-group wise Distribution:

Further an examination of the influence of age on the information seeking behaviour of the distance learners of Kuvempu University is made and the data are presented in Table 2. In this connection the respondents were requested to indicate their age in the questionnaire against the preferred faculty.

Table-2: Age-group wise distribution

Sl. No	Age Group	Discipline			
		Social Science	Science/ Technology	Commerce/ Management (N=442)	Total (N=1435)
1	Below 25 years	156(19.3%)	33(17.7%)	89(20.1%)	278(19.4%)
2	26-35 years	326(40.4%)	76(40.6%)	177(40.1%)	579(40.3%)
3	36-40 years	281(34.9%)	67(35.8%)	155(35.0%)	503(35.1%)
4	41 –50 years	43(5.4%)	11(5.9%)	21(4.8%)	75(5.2%)
5	Above 50 years	0(.0%)	0(.0%)	0(.0%)	0(.0%)
6	Test Statistics	$\chi^2 = 0.840$ df=6 p=.991			

The age and Faculty-wise distribution of respondents is shown in the above Table 2. The table indicates that the majority of respondents fall into the age group of 26-35 years range, scoring 579 (40.3%), whereas 503(35.1%) respondents are in the range of 36-40 years of age. This is followed by those who are in the age group of below 25 years of age, scoring 278 (19.4%). The remaining 75 respondents, representing (5.2%), are in the age group of 41-50 years. Hence, only a limited numbers of students above the age of 46-55. The χ^2 -test conducted for 6 d.f. at the 5% level of significance shows that there is no significant association between these groups of frequencies ($\chi^2=0.840$, $p=.991 > 0.05$).

Designationwise Distribution:

The study has identified variant user categories among the distance learners. The broad categories are such as students, employed individuals, unemployed or business type. The choices are also quite evident based on their domestication and family background. The data collected in these categories are presented in Table 3.

Table-3: Designation wise distribution of respondents

Sl. No	User Category	Discipline			
		Social Science	Science/ Technology	Commerce/ Management	Total
1	Student	62(7.6%)	20(10.7%)	48(11.0%)	130(9.1%)
2	Employed	503(63.1%)	145(77.1%)	332(75.1%)	980(68.2%)
3	Unemployed	131(16.2%)	9(5.1%)	12(2.7%)	152(10.6%)
4	Businessman	110(13.1%)	13(7.1%)	50(11.2%)	173(12.1%)
5	Total	806(100.0%)	187(100.0%)	442(100.0%)	1435(100%)
6	Test Statistics	$\chi^2 = 75.349$ df=2 p=.000			

The above Table shows the category-wise distribution of the respondents. The table depicts that a very high number of respondents 980 (68.2%) are 'Employed', followed by 173(12.1%) 'Businessman' and only 130(9.1%) are 'Student' category, as it is likely that more number of education aspirants intend to follow the Regular or informal course through distance courses of study. The χ^2 -test conducted for 2 d.f. at the 5% level of significance

shows that there is a significant association between these groups of frequencies ($\chi^2=75.349$, $p=.000<0.05$).

Frequency of visiting the library

After collecting the data on visits to the library, it is also desirable to know at what frequency they visit the library within a specified time/period. The frequency of library visit depends upon the availability of time, library location, resources and also information need and requirements of the respondents. The frequency of visit of users in the library indicates the information seeking behaviour. To study the punctuality in library use the respondents were asked as to how frequently they use the library and the responses are represented in the Table 4.

Table 4: Frequency of visiting the library

Sl. No	Frequency	Discipline			
		Social Science	Science/ Technology	Commerce/ Management	Total
1	Daily	42(5.2%)	7(3.8%)	11(2.4%)	60(4.2%)
2	Weekly	46(5.7%)	16(8.5%)	33(7.5%)	95(6.7%)
3	Fortnightly	86(10.6%)	37(19.7%)	84(19.0%)	207(14.4%)
4	Monthly	270(33.4%)	101(54.1%)	274(62.0%)	645(44.9%)
5	Occasionally	362(45.0%)	26(13.9%)	40(9.1%)	428(29.8%)
6	Total	806(100.0%)	187(100.0%)	442(100.0%)	1435(100%)
7	Test Statistics	$\chi^2 = 222.60$, $df=8$, $p=.000$			

It is evident from the Table that 645(44.9%) of respondents visit the library 'once a month' to meet their information needs, followed by 428(29.8%) visit the library 'occasionally', 207(14.4%) visit the library 'fortnightly' and only 60(4.2%) of the respondents visit the library 'daily'. The data distribution is quite evident that the distance learners use the library at their convenient time as they are engaged in one or other activity and obviously to the library daily may not be feasible. The χ^2 -test conducted for 8 d.f. at the 5% level of significance shows that there is significant difference between these groups of frequencies ($\chi^2=222.60$, $p=.000<0.05$).

Time Spent in the library

The amount of Time spent in the library also shows the extent of use of library and it plays an important role in users while seeking information that they needed. To study the average time /day respondent utilize the library it was asked how much time they spend in the library and the responses are shown in the Table 5.

Table 5: Time spent in the library

Sl. No	Time	Discipline			
		Social Science	Science/ Technology	Commerce/ Management	Total
1	Less than 1 hour	21(2.6%)	7(3.7%)	16(3.6%)	44(3.1%)
2	1-2 hours	236(29.2%)	33(17.6%)	72(16.2%)	341(23.8%)
3	2-3 hours	388(48.1%)	64(34.2%)	145(32.8%)	597(41.5%)
4	3-4 hours	147(18.2%)	52(27.8%)	129(29.1%)	328(22.9%)
5	More than 5 hours	14(1.7%)	31(16.5%)	80(18.1%)	125(8.7%)
6	Total	806(100.0%)	187(100.0%)	442(100.0%)	1435(100%)
7	Test Statistics	$\chi^2 = 164.170$ $df=8$, $p=.000$			

The time spent in library in each visit by the respondents' is presented in the table and the key timings are highlighted. It reveal maximum of 2-3 hours is spent by 597(41.5%), followed by 341(23.8%)of them spending '1-2 hours and the highest number of hours to the extent of 3-4 hours is spent by 328(22.9%) users of the library. It shows only 44(3.1%) spend less than an hour and 125(8.7%) spend more than 4 hours in the library. The χ^2 -test conducted for 8 d.f. at the 5% level of significance shows that there is significant difference between these groups of frequencies ($\chi^2=164.170$, $p=.000<0.05$).

The Purpose of Library Visit

The purpose of visit to the library is an important indicator to know the information seeking behaviour of the students. The distance education learners purposes of visits the library to meet their information requirements and the data of responses in this regard are given in Table 6.

Table-6: The Purpose of Library Visit

Sl. No	The purpose	Discipline				Test Statistics
		Social Science	Science/ Technology	Commerce/ Management	Total	
1	To Issue/ Borrow Books	346 (43.0%)	118 (63.1%)	280 (63.3%)	744 (51.8%)	$\chi^2 =58.588$ df=2, p=.000*
2	To read text books	659 (81.7%)	133 (71.1%)	265 (60.0%)	1057 (73.7%)	$\chi^2 =70.678$ df=2, p=.000*
3	To read Reference books	667 (82.8%)	112 (59.8%)	265 (60.0%)	1044 (72.8%)	$\chi^2 =92.793$ df=2, p=.000*
4	To read newspapers/Magazines	678 (84.1%)	138 (73.7%)	218 (49.3%)	1034 (72.1%)	$\chi^2 =171.990$ df=2, p=.000*
5	To collect old question paper	440 (54.5%)	146 (78.1%)	346 (78.2%)	932 (64.9%)	$\chi^2 =86.646$ df=2, p=.000*
6	To use Internet facility	173 (21.4%)	117 (62.5%)	281 (63.6%)	571 (39.8%)	$\chi^2 =257.848$ df=2, p=.000*

Note: * $p<0.05$

The table reveals the data relating to distance learners' purpose of visiting the library. Majority of students visit the library to read books on subject of study with 1057(73.7%) responses. Majority 1044(72.8%) students visit the library for the purpose of to read reference books. The table also shows that majority 1034(72.1%) students visit the library to read newspapers/Magazines. About 932(64.9%) of students visit the library to collect old question paper. It shows that students visit the library for the purpose of borrow and return books 744(51.8%).About 571(39.8%) students opined that they visit the library for using internet facility.

The awareness about services available in the library

The table 7 gives the data on the awareness about availability of library services by the students and it is to understanding the use pattern by the distance students.

Table-7: The awareness about services available in the library

Sl. No	Services	Discipline				Test Statistics
		Social Science	Science/Technology	Commerce/Management	Total	
1	Circulation Service (Issue/Return)	638 (79.1%)	156 (83.4%)	370 (83.7%)	1164 (81.1%)	$\chi^2 = 4.612$, $df=2$, $p=.100$
2	Newspaper clipping service	774 (96.1%)	166 (88.7%)	381 (86.1%)	1321 (92.1%)	$\chi^2 = 40.897$, $df=2$, $p=.000^*$
3	Reference service	668 (82.8%)	148 (79.1%)	365 (82.5%)	1181 (82.3%)	$\chi^2 = 1.487$, $df=2$, $p=.475$
4	Reprographic (Xerox) service	464 (57.5%)	150 (80.2%)	317 (71.7%)	931 (64.9%)	$\chi^2 = 47.280$, $df=2$, $p=.000^*$
5	Internet service	420 (52.1%)	126 (67.3%)	296 (66.9%)	842 (58.7%)	$\chi^2 = 32.711$, $df=2$, $p=.000^*$
6	Current Awareness Service	559 (63.1%)	124 (66.3%)	327 (74.0%)	1010 (70.4%)	$\chi^2 = 4.643$, $df=2$, $p=.098$

Note: * $p < 0.05$

It is observed from the table that majority of respondents are well aware about the types of services available in the library like i.e. Issue/Return 1164 (81.1%), Newspaper clipping service 1321 (92.1%), Reference service 1181 (82.3%), Xerox service (64.9%), Internet service 842 (58.7%), Current Awareness Service 1010 (70.4). The services like Xerox and Internet are quite less compared to others as they are also available to anyone outside the institutional premises, whereas others not.

Purpose of Information Seeking:

The users visit the library with certain purpose in mind. Their purpose for seeking information according to their information needs. Several relevant purposes for seeking information from the library are identified; such as preparing for examination, for Assignment writing, urge for information, updating information and so on.

Table-8. Purpose of information seeking

Sl. No	The purpose	Discipline				Test Statistics
		Social Science	Science /Technology	Commerce/Management	Total	
1	To prepare notes/ Assignments	616 (76.4%)	160 (85.5%)	381 (86.1%)	1157 (80.6%)	$\chi^2 = 20.804$, $df=2$, $p=.000^*$
2	To enhance knowledge on syllabus oriented subject areas	536 (66.5%)	150 (80.5%)	363 (81.9%)	1049 (73.1%)	$\chi^2 = 40.821$, $df=2$, $p=.000^*$
3	To satisfy the thrust on reading interest	435 (54.0%)	99 (53.0%)	233 (52.7%)	767 (53.4%)	$\chi^2 = .203$, $df=2$, $p=.903$
4	Preparing for examination	645 (80.0%)	151 (80.7%)	370 (83.7%)	1166 (81.3%)	$\chi^2 = 2.582$, $df=2$, $p=.275$
5	To get awareness on different (other) subject areas	363 (45.1%)	97 (51.8%)	233 (71.7%)	693 (48.3%)	$\chi^2 = 7.842$, $df=2$, $p=.020^*$
6	For preparing competitive exams	582 (72.2%)	155 (83.0%)	366 (82.8%)	1103 (76.9%)	$\chi^2 = 22.413$, $df=2$, $p=.000^*$
7	For recreation/ entertainment	302 (37.4%)	78 (41.7%)	187 (42.3%)	567 (39.5%)	$\chi^2 = 3.231$, $df=2$, $p=.199$

The Table 8 describes the main purpose behind information seeking activity by the distance students. It is observed that four of the seven purposes have highest responses from the students. Majority of students seek information for Preparing Examination i.e. 1166(81.3%), followed by for preparing notes and then for assignment writing i.e. 1157(80.6%), preparing for competitive examination with responses of 1103(76.9%) and lastly enhance syllabus knowledge and updating from the course material i.e. 1049(73.1%). a majority of students seek information for their project work, 326 (91.57%), for preparing class assignments, i.e. 288 (80.89%), to gain general awareness, i.e. 183 (51.40%), preparing class notes 128 (35.95%) and for facilitating the discussion, i.e. 76 (21.34%) and so on. The responses to the other purposes are very moderate and less. This shows that the distance learners have access to the neighbouring library facilities and they use them more and more for academic purposes. The responses therefore are quite in commensurate with the academic and examination related work of the distance learners and they make of use for the pursuance of their studies only.

Information Resources Locating Strategy

Information resource is a basic resource for any kind of professional activity. The respondents were asked to state their preferred information resource locating strategy and the responses are shown in Table 9.

Table-9: Information Resources Locating Strategy

Sl. No	Opinion	Discipline				Test Statistics
		Social Science	Science/ Technology	Commerce/ Management	Total	
1	Consult with library staff / experts	611 (75.8%)	140 (74.8%)	331 (74.8%)	1082 (75.4%)	$\chi^2 = .163$ df=2,p=.922
2	Discuss with co-workers /colleagues	415 (51.4%)	94 (50.2%)	221 (50.0%)	730 (50.9%)	$\chi^2 = .285$ df=2,p=.867
3	Search on the internet	568 (70.4%)	136 (72.7%)	328 (74.2%)	1032 (71.9%)	$\chi^2 = 2.043$ df=2,p=.360
4	Browse in library catalogue	429 (53.2%)	146 (78.0%)	347 (78.5%)	922 (64.3%)	$\chi^2 = 97.320$ df=2,p=.000*
5	Request for photocopy	607 (75.3%)	122 (65.2%)	286 (64.7%)	1015 (70.7%)	$\chi^2 = 18.638$ df=2,p=.000*
6	Request for Issue	534 (66.2%)	118 (63.1%)	276 (62.4%)	928 (64.7%)	$\chi^2 = 2.044$ df=2,p=.360

Note: * p<0.05

The Table 9 shows data on how the students locating the needed information and there are at least 6 different ways of locating information. The four most modes of accessing the needed information in this context are; Consult library staff (75.4%), Search on the internet (71.9%) thirdly Request for Photocopy 1015(70.7%) and then finally borrow the material with 64.7%.

Preference of Channels of Information by Respondents

In this era of information explosion, no library can acquire all the information that is published even in a single discipline. Thus, a single library cannot meet the total requirements of the users and as such the user has to depend on other sources to fulfil their information needs. So the responses regarding the various channels which the respondents use to acquire the information published in their subject field and thereby fulfil their information needs. The

distance learners from Kuvempu University were asked to indicate type or types of information channels they used for getting the needed information.

Table-10: Preference of Channels of Information Seeking by Respondents

Sl. No	Channels	Discipline				Test Statistics
		Social Science	Science/ Technology	Commerce/ Management	Total	
1	Mobile phone	615 (76.3%)	139 (74.3%)	322 (72.8%)	1076 (75.0%)	$\chi^2 = 1.862$ df=2, p=.394
2	Cable TV/Radio	458 (56.8%)	137 (73.2%)	288 (65.1%)	883 (61.5%)	$\chi^2 = 20.874$ df=2, p=.000*
3	Library Web Sites	283 (35.1%)	94 (50.2%)	220 (49.7%)	597 (41.6%)	$\chi^2 = 31.904$ df=2, p=.000*
4	Social Media	604 (74.9%)	142 (76.0%)	328 (74.2%)	1074 (74.8%)	$\chi^2 = .217$ df=2, p=.897
5	Internet	624 (77.4%)	158 (84.4%)	375 (84.9%)	1157 (80.6%)	$\chi^2 = 12.124$ df=2, p=.002*
6	Library and Information Centre's	660 (81.8%)	155 (82.8%)	369 (83.4%)	1184 (82.5%)	$\chi^2 = .527$ df=2, p=.768
7	Community Information Centre's	388 (48.1%)	106 (56.6%)	249 (56.3%)	743 (51.8%)	$\chi^2 = 9.754$ df=2, p=.008*

Note: * p<0.05

The channels with high level of response are shown with colour shades. It shows the Library and Information Centre 1184(82.5%) rank highest with 82.5% and the remaining are Internet with 1157(80.6%), Smart phone 1076 (75.0%), Social Media 1074 (74.8%), TV/Radio with 883(61.5%) this is quite natural that some of the distance learning education purposes are offering online and virtual learning facilities and some of them are coming regularly from the national Television Transmission. The Indira Gandhi National Open University, New Delhi is offering online course material and many students make use of this.

Preference of document formats for seeking information

Narrowing down the study, the students were asked to give their preferences to the document formats for getting information. Now that Online coaching materials made available. We are all aware that in the present day documents get published in print format as well as electronic format. Individuals prefer either print or electronic format, and sometimes they may like both. Considering the ease with which we can handle electronic documents made it a preferred format for many. With a view to find the most preferred document format among the respondents a question was asked and the data available is presented in Table 11.

Table-11. Preference of document formats for seeking information

Sl. No	Mode of access	Discipline			
		Social Science	Science/ Technology	Commerce/ Management	Total
1	Print	237(29.4%)	21(11.2%)	58(13.1%)	316(22.0%)
2	Electronic	203(25.1%)	116(62.1%)	260(58.9%)	579(40.4%)
3	Both	366(45.5%)	50(26.7%)	124(28.0%)	540(37.6%)
4	Test Statistics	$\chi^2 = 180.471$, df=4, p=.000			

The data described above shows that 579(40.4%) respondents are in favour of electronic formats which is highest among the three. However, 540(37.6%) respondents prefer any of the document formats. As much as 316(22.0%) respondents prefer only print documents.

The χ^2 -test conducted for 4 d.f. at the 5% level of significance shows that there is a significant relationship between preference of mode of accessing information resources and the respondents ($\chi^2=180.471$, $p=.000<0.05$). Hence, the research Hypothesis-2 is supported. i.e., the learners in the field of distance education seek the information for the purpose of getting better academic merit irrespective of the format in which information available.

Problems Faced while Seeking Information

The users face many problems while seeking information. The problems might be technical in general, personal problems or organisational and or psychological. The data collected from respondents on these and similar accounts are presented in Table 12.

Table-12. Problems Faced while Seeking Information

Sl. No	Problems	Discipline				Test Statistics
		Social Science	Science/ Technology	Commerce/ Management	Total	
1	Information is too vast	451 (56.0%)	105 (56.1%)	251 (56.7%)	807 56.2%	$\chi^2 =.081$ $df=2,p=.960$
2	Lack of knowledge in using the library resources	476 (59.0%)	71 (38.0%)	167 (37.7%)	714 49.8%	$\chi^2 =63.632$ $df=2,p=.000^*$
3	The process of getting the information is too complicated	574 (71.2%)	133 (71.1%)	311 (70.3%)	1018 70.9%	$\chi^2 =.104$ $df=2,p=.949$
4	Authenticity of information	555 (68.8%)	100 (53.4%)	231 (52.2%)	886 61.7%	$\chi^2 =39.505$ $df=2,p=.000^*$
5	Lack of skills on how to search information	616 (76.4%)	125 (66.8%)	299 (67.6%)	1040 72.5%	$\chi^2 =14.445$ $df=2,p=.001^*$
6	Language is a barrier for seeking information	247 (30.6%)	59 (31.5%)	140 (9.1%)	446 31.1%	$\chi^2 =.163$ $df=2,p=.922$

Note: * $p<0.05$

The Faculties were asked as to what problems they faced while seeking information. The responses are recorded in Table -12. The analysis of above table reveals that to the extent of 1040(72.5%) of students expressed the lack of skills on how to search information, whereas 1018(70.9%) students opined that the process of getting the information is too complicated, and that 886(61.7%) students gave the opinion that authenticity of information, 807(56.2) students feel that information is too vast. It is also observed that 446(31.1%) of respondents opined that the statement of Language is a barrier for seeking information, while 714(49.8%) lack of knowledge in using the library resources.

The χ^2 -test conducted for 2 d.f. at the 5% level of significance shows that there is a significant relationship between problems faced while seeking information and the respondents ($p=.000<0.05$).

The χ^2 -test also shows that there is no significant difference between problems faced while seeking information and the respondents only for few fields viz., Information is

too vast($p=.960$),The process of getting the information is too complicated($p=.949$),Language is a barrier for seeking information($p=.922$) .

Distribution of Familiar with the Use of Computer

Since almost all respondents are using computers, the study also made to know how long they been using the computer. The data are presented in Table 13.

Table-13. Distribution of Familiar with the Use of Computer

Sl. No	Use of Computer	Discipline			
		Social Science	Science/ Technology	Commerce/ Management	Total
1	Less than 1 year	42(5.2%)	4(2.1%)	6(1.3%)	52(3.6%)
2	1-2 years	180(22.3%)	4(2.1%)	10(2.2%)	194(13.6%)
3	2-3years	312(38.7%)	55(29.4%)	135(30.5%)	502(35.0%)
4	3-4 years	163(20.3%)	98(52.5%)	226(51.1%)	487(33.9%)
5	More than 5 years	109(13.5%)	26(13.9%)	65(14.7%)	200(13.9%)
6	Total	806(100.0%)	187(100.0%)	442(100.0%)	1435(100.0%)
7	Test Statistics	$\chi^2 = 230.047, df=8, p=.000$			

The Table shows that nearly 70% of the respondents are using the computers for more than 2 Years and to be precise, between 2-3 and 3-4 years. Only 13.9% are using for more than 5 years and very small number of users 54 (3.8%) are using computers for less than a year and it is now natural. The χ^2 -test conducted for 8 d.f. at the 5% level of significance shows that there is significant relationship between these groups of frequencies ($\chi^2=230.047, p=.000 < 0.05$).

Awareness of the ICT tools

To assess the awareness level of distance learners in using several ICT tools, the distance learners were asked to mention their awareness level on a five point scale. The response data are presented in Table 14.

Table-14. Awareness of the ICT tools

Sl. No	ICT tools	Rating Scale	Discipline				Test Statistics	
			Social Science	Science/ Technology	Commerce/ Management	Total	F-value	P-value
1	Computer	Very poor	4 (0.5%)	1 (0.5%)	2 (0.4%)	7 (.5%)	.657	.578
		Poor	6 (0.7%)	2 (1.0%)	1(0.2%)	9 (.6%)		
		Moderate	44 (5.4%)	10 (5.3%)	19 (4.2%)	73 (5.1%)		
		Good	658 (81.8%)	1.1 (73.8%)	335 (75.8%)	1131 (78.8%)		
		Very Good	94 (11.6%)	36 (19.2%)	85 (19.4%)	215 (15.0%)		
2	Laptop	Very Poor Computer	10 (1.2%)	4 (2.1%)	12 (2.6%)	26 (1.8%)	5.857	.001
		Poor	26 (3.1%)	7 (3.7%)	16 (3.6%)	49 (3.4%)		

		Moderate	109 (13.6%)	9 (4.8%)	24 (5.4%)	142 (9.9%)		
		Good	605 (75.0%)	56 (30.0%)	176 (40.0%)	837 (58.3%)		
		Very Good	56 (7.0%)	111 (59.4%)	214 (48.4%)	381 (26.6%)		
3	IPad	Very Poor Computer	64 (8.0%)	9 (4.8%)	25 (5.6%)	98 (6.8%)	3.142	.024
		Poor	532 (66.0%)	12 (6.4%)	31 (7.0%)	575 (40.1%)		
		Moderate	134 (16.7%)	127 (68.0%)	289 (65.3%)	550 (38.3%)		
		Good	69 (8.5%)	39 (20.8%)	95 (21.7%)	203 (14.2%)		
		Very Good	7 (0.8%)	0 (%)	2 (0.4%)	9 (.6%)		
4	Smart Phone	Very Poor Computer	12 (1.4%)	5 (2.7%)	12 (2.7%)	29 2.0%	4.699	.003
		Poor	33 (4.0%)	6 (3.2%)	11 (2.4%)	50 3.5%		
		Moderate	56 (7.2%)	6 (3.2%)	10 (2.2%)	72 5.0%		
		Good	219 (27.2%)	39 (20.8%)	90 (20.5%)	348 24.3%		
		Very Good	486 (60.3%)	131 (70.1%)	319 (72.2%)	936 65.2%		
5	Internet	Very Poor Computer	18 (2.2%)	3 (1.6%)	9 (2.2%)	30 2.1%	2.682	.045
		Poor	25 (3.1%)	5 (2.7%)	6 (1.3%)	36 2.5%		
		Moderate	131 (16.2%)	1 (0.5%)	34 (7.6%)	166 11.6%		
		Good	530 (65.8%)	75 (40.1%)	149 (33.7%)	754 52.5%		
		Very Good	102 (12.7%)	103 (55.1%)	244 (55.2%)	449 31.3%		
6	Storage Devices-(CD,DVD, Pen drive/ memory card)	Very Poor Computer	8 (1.0%)	4 (2.1%)	10 (2.2%)	22 (1.5%)	7.398	.000
		Poor	37 (4.5%)	6 (3.2%)	15 (3.4%)	58 (4.0%)		
		Moderate	388 (48.3%)	4 (2.1%)	10 (2.2%)	402 (28.0%)		
		Good	123 (15.2%)	65 (34.7%)	157 (35.6%)	345 (24.0%)		
		Very Good	250 (31.0%)	108 (57.9%)	250 (56.6%)	608 (42.5%)		
7	Scanner	Very Poor Computer	79 (9.8%)	1 (0.5%)	0 (.0%)	80 (5.6%)	19.55 4	.000
		Poor	641 (79.6%)	7 (3.8%)	0 (.0%)	648 (45.2%)		
		Moderate	67 (8.4%)	33 (17.6%)	135 (30.5%)	235 (16.4%)		
		Good	12 (1.4%)	90 (48.1%)	209 (47.2%)	311 (21.6%)		
		Very Good	7 (0.8%)	56 (30.0%)	98 (22.3%)	161 (11.2%)		
8	Printers	Very Poor Computer	100 (12.4%)	6 (3.2%)	14 (3.1%)	120 (8.4%)	1.360	.253
		Poor	571	62	147	780		

			(70.8%)	(33.1%)	(33.2%)	(54.4%)		
		Moderate	90 (11.1%)	95 (50.9%)	225 (50.9%)	410 (28.6%)		
		Good	35 (4.3%)	21 (11.2%)	49 (11.1%)	105 (7.2%)		
		Very Good	10 (1.3%)	3 (1.6%)	7 (1.5%)	20 (1.4%)		
9	Digital camera	Very Poor Computer	23 (2.8%)	6 (3.2%)	13 (2.9%)	42 (2.9%)	7.097	.000
		Poor	70 (8.6%)	13 (7.0%)	19 (4.2%)	102 (7.1%)		
		Moderate	108 (13.5%)	45 (20.1%)	115 (26.0%)	268 (18.7%)		
		Good	483 (60.0%)	91 (48.6%)	221 (50.0%)	795 (55.4%)		
		Very Good	122 (15.1%)	32 (17.1%)	74 (16.7%)	228 (15.9%)		
10	Copier (Xerox)	Very Poor Computer	91 (11.3%)	10 (5.3%)	25 (5.6%)	126 (8.8%)	7.079	.000
		Poor	648 (80.3%)	66 (35.4%)	177 (40.0%)	891 (62.0%)		
		Moderate	39 (4.9%)	88 (47.0%)	174 (39.3%)	301 (21.0%)		
		Good	18 (2.2%)	14 (7.4%)	42 (9.5%)	74 (5.2%)		
		Very Good	10 (1.3%)	9 (4.9%)	24 (5.4%)	43 (3.0%)		

The responses are quite clear and acceptable. As many as 65.2% of them have Good Skills in using the Smart Phone and that device is almost possessed by now by many. The use of the other computer devices are computers 78.8% and the Lap Tops ranking third 58.3%. The use of computer accessories like printers and scanners are quite less as it requires to possess them personally. The use of storage devices like CDs and DVDs and Pen Drives is Very Good to the extent of 45.2% including the digital camera as most of the Smart Phones have a camera device. The use of Copiers is Poor as the respondents are not required to use and handle them personally. Interestingly the results are quite realistic and practical.

The One-way ANOVA test has been employed to know the significant differences between the students of distance learning with respect to their awareness of various Information Technology tools. The result of One-way ANOVA presented in the table clearly shows that there is a significant association between the categories of users with respect to their awareness of Information Technology tools. The One-Way ANOVA statistical test also shows that there is no significant difference the categories of users with respect to their awareness of Information Technology tools only for few fields viz., Computer(p=.578), Printers (.253) since the probability value is more than the .05.

Distribution of Place of Access to Internet

The distance education learners were asked to respond to the query when 100% are using the Internet, and as where they make use of the facility such as; at Home, in Office, Internet or Cyber Cafe or Computer Centre if it is available to them. Hence to study the respondents' preference for places of accessing the Internet, a question was asked and the responses are presented in Table 15.

Table-15. Distribution of Place of Access to Internet

Sl. No	Place of Access	Discipline			
		Social Science	Science/ Technology	Commerce/ Management	Total
1	Home	131(16.2%)	78(41.7%)	214(48.4%)	423(29.4%)
2	Work Place	80(9.9%)	24(12.8%)	60(13.5%)	164(11.5%)
3	Cyber café/ Computer centre	401(49.8%)	52(27.9%)	108(24.5%)	561(39.1%)
4	Hostel/library	194(24.1%)	33(17.6%)	60(13.5%)	287(20.0%)
5	Total	806(100.0%)	187(100.0%)	442(100.0%)	1435(100.0%)
6		$\chi^2 = 184.918, df=6, p=.000$			

The table 15 shows that the users were asked about access to internet. The findings showed that 561(39.1%) users acknowledge access to internet at Cyber Cafe or Computer Centre, whereas 423(29.4%) of the respondents accessed at home and only 164(11.5%) of the respondents prefer their work place. The other places to access the internet facility is hostel/library (15.5%). Finally we can decide that, most of the users access internet at Cyber Cafe or Computer Centre. The χ^2 -test showed for 6 d.f. at the 5% level of significance shows that there is significant difference among the respondents of various categories ($\chi^2=184.918, p=.000$). Students prefer Cyber Cafe or Computer Centre more to access the Internet compared to other places.

Purpose of Use of Internet

It is interesting to study for what purpose the respondents use the Internet and what type of information they search for on the Internet. The various purposes of the users for using the Internet were identified, the data was collected and the responses are presented in Table 17.

Table 17. Purpose of Use of Internet

Sl. No	Purpose	Rating scale	Discipline			
			Social Science	Science/ Technology	Commerce/ Management	Total
1	Online learning (E-learning)	Never	6(0.7%)	0(0.0%)	8(1.8%)	14(1.0%)
		Rarely	20(2.5%)	1(0.5%)	10(2.3%)	31(2.2%)
		Sometimes	325(40.3%)	6(3.2%)	12(2.7%)	343(23.9%)
		Often	428(53.1%)	123(65.8%)	290(65.6%)	841(58.6%)
		Very Often	27(3.4%)	57(30.5%)	122(27.6%)	206(14.3%)
2	Download notes, study materials	Never	6(0.7%)	2(1.0%)	4(0.9%)	12.8%
		Rarely	43(5.3%)	9(4.8%)	8(1.8%)	604.2%
		Sometimes	264(32.9%)	4(2.1%)	19(4.2%)	28720.0%
		Often	153(19.0%)	25(13.5%)	49(11.2%)	22715.8%
		Very Often	340(42.1%)	147(78.6%)	362(81.9%)	84959.2%
3	To keep abreast of latest development in the field	Never	37(4.5%)	1(0.5%)	11(2.5%)	493.4%
		Rarely	280(34.7%)	1(0.5%)	6(1.3%)	28720.0%
		Sometimes	165(20.4%)	10(5.4%)	32(7.3%)	20714.4%
		Often	255(31.8%)	166(88.7%)	352(79.6%)	77353.9%
		Very Often	69(8.6%)	9(4.9%)	41(9.3%)	1198.3%
4	To prepare notes	Never	29(3.5%)	6(3.2%)	13(3.0%)	483.3%
		Rarely	48(6.1%)	10(5.3%)	20(4.5%)	785.4%
		Sometimes	69(8.6%)	15(8.1%)	33(7.4%)	1178.2%
		Often	575(71.3%)	133(71.1%)	31571.2%)	102371.3%
		Very Often	85(10.5%)	23(12.2%)	61(13.8%)	16911.8%
5	Social Networking	Never	5(0.6%)	2(1.3%)	4(0.9%)	11.8%
		Rarely	2(0.2%)	3(1.6%)	3(0.6%)	8.6%
		Sometimes	25(3.1%)	11(5.9%)	13(2.9%)	493.4%

		Often	316(39.2%)	47(25.1%)	111(25.1%)	47433.0%
		Very Often	458(56.9%)	124(66.3%)	311(70.3%)	89362.2%
6	For professional development	Never	39(4.9%)	0(.0%)	0(.0%)	392.7%
		Rarely	100(12.4%)	8(4.2%)	24(5.4%)	1329.2%
		Sometimes	420(52.1%)	27 (14.5%)	32(7.2%)	47933.4%
		Often	242(30.1%)	138(73.8%)	339(76.8%)	71950.1%
		Very Often	5(0.6%)	14(7.5%)	47(10.6%)	664.6%
7	To search other University websites	Never	89(11.1%)	29(15.5%)	38(8.5%)	15610.9%
		Rarely	553(68.7%)	91(48.7%)	242(54.8%)	88661.7%
		Sometimes	107(13.2%)	26(13.9%)	63(14.2%)	19613.7%
		Often	37(4.5%)	29(15.5%)	69(15.6%)	1359.4%
		Very Often	20(2.4%)	12(6.5%)	30(6.9%)	624.3%
8	E-mail	Never	9(1.2%)	5(2.7%)	3(0.6%)	171.2%
		Rarely	49(6.0%)	11(5.9%)	2(0.4%)	624.3%
		Sometimes	590(73.2%)	143(76.4%)	324(73.4%)	105773.7%
		Often	117(14.5%)	21(11.2%)	73(16.5%)	21114.7%
		Very Often	41(5.1%)	7(3.8%)	40(9.1%)	886.1%

Table 16 reveals that, majority 1023(71.3%) of the students of distance education often use the Internet to prepare notes for their academic activity, followed by (89362.2%) of the respondents use it for social networking, 849(59.2%) of them very often use Internet for the purpose of Download notes, study materials, 841(58.6%) of them often use Internet for the purpose of Online learning (E-learning), 773(53.9%) of them often use to keep abreast of latest development in the field, 719(50.1%) of them often use it for professional development. It is also describes that majority 1057(73.7%) of the students of distance education sometimes use it for e-mail communication and only 886(61.7%) respondents rarely use Internet to search other University websites. The table shows that internet is used by the students of distance education almost for right purposes at a maximum level. But surprisingly, the use of Internet for social networking is highest with very often approach is not in equal with studies and also that it is used sometimes for E-mail.

Types of Electronic Information Resources

The distance learners from different faculties such as Social Science, Science and Technology and Commerce and Management use different electronic information resources. The responses received from the learners of these faculties are given in the Table 17. The types of e-resources accessed by the responses vary distinctly, the e-books, e-dissertations, e-newspapers and e-dictionaries are used very much and for instance that they are using them with the smart phone devices, and magazines, dictionaries, audio-visuals are used for more and the others are used very moderately as observed the data in this regard is presented in Table 17.

Table 17. Types of Electronic Information Resources

Sl. No	E-Resources	Discipline				Test Statistics
		Social Science	Science/ Technology	Commerce/ Management	Total	
1	E-journals	238 (29.5%)	109 (58.2%)	253 (57.2%)	600 (41.8%)	$\chi^2 = 114.093$ df=2, p=.000*
2	E-books	571 (70.8%)	126 (67.3%)	262 (59.3%)	959 (66.8%)	$\chi^2 = 17.260$ df=2, p=.000*
3	Databases(Online/Offline)	239 (29.6%)	104 (55.6%)	243 (54.9%)	586 (40.8%)	$\chi^2 = 95.214$ df=2, p=.000*
4	E- theses and	345	146	312	803	χ^2

	dissertations	(42.8%)	(78.1%)	(70.5%)	(56.0%)	=132.092 df=2,p=.000*
5	Audio visual resources	421 (52.2%)	145 (77.5%)	347 (78.5%)	913 (63.6%)	χ^2 =103.134 df=2,p=.000*
6	E-Dictionaries	499 (61.9%)	147 (78.6%)	324 (73.3%)	970 (67.6%)	χ^2 =28.822 df=2,p=.000*
7	E-magazines	504 (62.5%)	143 (76.4%)	318 (72.0%)	965 (67.2%)	χ^2 =19.792 df=2,p=.000*
8	CD-ROM Databases	310 (38.4%)	105 (56.1%)	248 (56.1%)	663 (46.2%)	χ^2 =44.326 df=2,p=.000*
9	E- News papers	645 (80.1%)	153 (82.0%)	362 (81.9%)	1160 (80.8%)	χ^2 =.782 df=2,p=.000*
10	E-Encyclopaedia	231 (28.6%)	118 (63.1%)	279 (63.1%)	628 (43.8%)	χ^2 =170.425 df=2,p=.000*

Note: * p<0.05

The table describes that majority 1160 (80.8%) respondents access information by **E-Newspapers, followed by 970(67.6%) of the students to locate/ access the information E-Dictionaries, 965(67.2%) of them use E-magazines, 959(66.8%) of them use e-booksto access the information, 913(63.6%) of them locate information by audio visual resources and only 586(40.8%) use Databases (Online/Off-line).**

The Chi-Square test has been employed to know the significant difference between the use of various types of Electronic Information Resources and the students of distance learning and it is found that there is a significant association between the use of various types of Electronic Information Resources and the students of distance learning.

Constraints faced by the Distance Lerner’s while accessing Electronic Resources

The respondents were also asked to mention the difficulties faced by them which accessing and use of e-Resources as they have some virtual access. The study has identified some key problems and the users asked to respond to them. The data collected in this context are presented in the Table 18.

Table-18: Constraints faced by the Distance Lerner’s while using electronic resources

Sl. No	Difficulties	Discipline				Test Statistics
		Social Science	Science/ Technology	Commerce/ Management	Total	
1	Lack of training to access and use the e-resources	585 (72.5%)	122 (65.2%)	291 (65.8%)	998 (69.5%)	χ^2 =8.012 df=2,p=.018*
2	Non-availability of e-resources on the subject area	420 (52.1%)	133 (72.1%)	322 (72.9%)	875 (61.0%)	χ^2 =60.914. df=2,p=.000*
3	Lack of system speed and network capacity	495 (61.4%)	107 (57.2%)	254 (57.4%)	856 (59.7%)	χ^2 =2.377 df=2,p=.305
4	Lack of access via hand held devices (mobile phone)	565 (70.1%)	107 (57.2%)	253 (57.2%)	925 (64.5%)	χ^2 =25.526 df=2,p=.000*
5	Lack of awareness	644	121	283	1048	χ^2 =44.087

	about the E-resources	(80.0%)	(64.7%)	(64.0%)	(73.0%)	df=2,p=.000*
6	Irrelevant content on the internet	474 (58.8%)	132 (70.5%)	346 (78.2%)	952 (66.3%)	$\chi^2 = 50.206$ df=2,p=.000*

Note: * p<0.05

According to the filled in the questionnaires, here found some problems that are faced by the users when they are using e-resources. Responses obtained from the distance learners on the issue of hindrance to their use of electronic resources are quite revealing. All the constraints, identified and put across, were confirmed in the analysis, as presented in Table 18. The main problem experienced by the users ‘Lack of awareness about the E-resources’ with 73% response is the key factor which is followed by ‘Lack of Training to access and use of electronic resources with 69.4% response. Irrelevant content with 66.3% comes next and there are other problems experienced by the students of distance learning such as lack of access via hand held devices (mobile phone) with 64.5% response and non – availability of relevant information on the internet with 61%.

To test the significant association between the Constraints faced while using electronic resources and the Distance Lerner’s, the Chi Square test has been employed and it is found that there is a significant association between the Constraints faced while accessing electronic resources and the Distance Lerner’s except for the field Lack of system speed and network capacity(p=.305).

Type of Website resources for access

To complement the data from Table 21 a query was put to the students to know the type of websites for resources accessed by them and the data are presented in Table – 19.

Table-19; Type of Website resources for access

Sl. No	Website Resources	Discipline			
		Social Science	Science/ Technology	Commerce/ Management	Total
1	Dr. B.R. Ambedkar Open University	314 (50.4%)	85 (59.4%)	220 (65.4%)	619 (56.2%)
2	NetajiSubhas Open University	312 (50.1%)	84 (58.7%)	191 (56.8%)	587 (53.3%)
3	Indira Gandhi National Open University	451 (72.5%)	120 (83.9%)	267 (79.4%)	838 (76.1%)
4	Tamil Nadu Open University	298 (47.9%)	74 (51.7%)	189 (56.2%)	561 (50.9%)
5	Karnataka State Open University	364 (58.5%)	103 (72.0%)	235 (70.0%)	702 (63.7%)
6	INFLIBNET E-PG Patashala website	401 (64.5%)	107 (74.8%)	248 (73.8%)	756 (68.6%)

The website of Indira Gandhi National Open University, New Delhi with **838(76.1%)** was the highest used Website by the students of distance education under study. The next is the INFLIBNET’s e-PG Patashala with **756(68.6%)**. It is quite natural that the two are national level organisations which are supporting the distance education learners with good course material which the learners want to use. About **702(63.7%)** of the students of distance

education used Karnataka State Open University Website resources, 619(56.2%) used Dr. B.R. Ambedkar Open University Website resources, and 561(50.9%) used Tamil Nadu Open University Website resources.

Influence of ICT on Information seeking habit

The advent of ICT has influenced the way people seek information. The barriers of time and distance, sometimes even language are removed from the communication scenario and have influenced information seeking in a lot of ways. Now- a- days searching for information has become very easy with the development of communication technology.

Table-20: Influence of ICT on Information seeking habit

Sl. No	Statements	Discipline				Test Statistics
		Social Science	Science	Commerce and /Management	Total	
1	Communication with many	714 (88.5%)	159 (85.0%)	371 (83.9%)	1244 (86.7%)	$\chi^2 = 5.862$ df=2, p=.053
2	Learning from others contribution	491 (60.9%)	120 (64.1%)	349 (78.9%)	960 (66.9%)	$\chi^2 = 42.680$ df=2, p=.000*
3	Quick response	599 (74.3%)	145 (77.5%)	346 (78.2%)	1090 (76.0%)	$\chi^2 = 2.750$ df=2, p=.253
4	Economic	381 (47.2%)	91 (48.6%)	216 (48.8%)	688 (47.9%)	$\chi^2 = .337$ df=2, p=.845
5	Flexible	604 (74.9%)	138 (73.8%)	325 (73.5%)	1067 (74.4%)	$\chi^2 = .332$ df=2, p=.847
6	Sharing of ideas	564 (70.0%)	146 (78.1%)	345 (78.0%)	1055 (73.5%)	$\chi^2 = 11.863$ df=2, p=.003*
7	Time saving	486 (60.2%)	171 (91.4%)	407 (92.1%)	1064 (74.1%)	$\chi^2 = 183.993$ df=2, p=.000*

Note: * p<0.05

It is found from the table 20 that out of 7 advantages of ICT in information seeking the data reveals that the six advantages are over 70% and the first being the Communicating with many simultaneously with highest percentage of 86.7%. Time saving, Flexibility, Quick Response are the others. The only low response is on Economics of the ICT in information seeking which shows 47.9% and then leaning from other contributors with 66.9% response. However there are good advantages of ICT’s use in information seeking, especially is locating and accessing.

Distribution of students’ attitude towards the use of ICT on distance learning

ICT provides latest and up-to-date information which is essential for the academic activity of the respondents. The responses are drawn on the effectiveness of the ICT on the quality of study. The study tried to find out the attitude and reactions of the distance education learners in using the ICT in the leaning process. The data was collected on six attitudes and reactions using the Rating Scales 5- Strongly Agree to 1- Strongly Disagree and the responses on the three faculties are collected and presented in the Table 21.

Table 21. Distribution of students' attitude towards the use of ICT on distance learning

Sl. No	Students' opinion		Discipline			
			Social Science	Science/ Technology	Commerce/ Management	Total
1	Scored more in examination	Strongly Disagree	4(0.4%)	3(1.6%)	2(0.4%)	9(.6%)
		Disagree	13(1.6%)	5(2.6%)	6(1.3%)	24(1.7%)
		Neutral	53(6.7%)	6(3.2%)	10(2.2%)	69(4.8%)
		Agree	652(80.9%)	47(25.1%)	94(21.2%)	793(55.3%)
		Strongly Agree	84(10.4%)	126(67.3%)	330(74.6%)	540(37.6%)
2	ICT helps to develop higher order thinking skills	Strongly Disagree	30(3.7%)	1(0.5%)	16(3.6%)	47(3.3%)
		Disagree	55(6.8%)	22(11.9%)	21(4.7%)	98(6.8%)
		Neutral	615(76.4%)	23(12.3%)	52(11.7%)	690(48.1%)
		Agree	72(8.9%)	114(70.0%)	291(65.9%)	477(33.2%)
		Strongly Agree	34(4.2%)	27(14.4%)	62(14.1%)	123(8.6%)
3	Learning through electronic devices creates eagerness, curiosity and encourages me to do something new	Strongly Disagree	43(5.3%)	6(3.2%)	12(2.7%)	61(4.3%)
		Disagree	104(13.0%)	35(18.7%)	99(22.3%)	862(60.1%)
		Neutral	544(67.4%)	31(16.5%)	70(15.9%)	205(14.3%)
		Agree	68(8.4%)	104(55.6%)	214(48.4%)	202(14.1%)
		Strongly Agree	47(5.9%)	11(6.0%)	47(10.7%)	105(7.2%)
4	ICT helps distance learners acquire new knowledge effectively	Strongly Disagree	16(2.0%)	2(1.1%)	5(1.2%)	23(1.6%)
		Disagree	32(3.9%)	2(1.1%)	12(2.7%)	46(3.2%)
		Neutral	88(10.9%)	4(2.1%)	28(6.3%)	120(8.4%)
		Agree	557(69.1%)	125(66.9%)	297(67.1%)	979(68.2%)
		Strongly Agree	113 (14.1%)	54 (28.8%)	100(22.7%)	267 (18.6%)
5	I do agree that electronic devices like computers, Internet, Television all are very helpful in my studies during examination	Strongly Disagree	13(1.6%)	2(1.0%)	14(3.2%)	29(2.0%)
		Disagree	33(4.0%)	9(4.8%)	32(7.2%)	74(5.2%)
		Neutral	58(7.1%)	9(4.8%)	43(9.7%)	110(7.7%)
		Agree	236(29.4%)	48(25.7%)	121(27.4%)	405(28.2%)
		Strongly Agree	466(57.9%)	119(63.7%)	232(52.5%)	817(56.9%)
6	ICT/ Computers are a fast and efficient means of getting updated information.	Strongly Disagree	8(0.9%)	0(.0%)	3(0.6%)	11(0.8%)
		Disagree	13(1.7%)	8(4.2%)	16(3.9%)	37(2.6%)
		Neutral	33(4.0%)	21(11.2%)	14(3.1%)	68(4.7%)
		Agree	220(27.2%)	42(22.5%)	170(38.4%)	432(30.1%)
		Strongly Agree	532(66.0%)	116(62.1%)	239(54.0%)	887(61.8%)
7	Studying with the help of computers gives me great pleasure and satisfaction	Strongly Disagree	37(4.5%)	8(4.2%)	22(4.9%)	67(4.7%)
		Disagree	100(12.4%)	7(3.7%)	27(6.1%)	134(9.3%)
		Neutral	139(17.3%)	22(11.7%)	90(20.3%)	251(17.5%)
		Agree	473(58.7%)	129(69.0%)	253(57.2%)	855(59.6%)
		Strongly Agree	57(7.1%)	21(11.4%)	50(11.5%)	128(8.9%)
8	I prefer getting information on computer screen instead of printed page	Strongly Disagree	34(4.3%)	4(2.1%)	16(3.6%)	54(3.8%)
		Disagree	604(75.0%)	3(1.6%)	1(0.2%)	608(42.4%)
		Neutral	97(12.0%)	7(3.9%)	5(1.1%)	109(7.5%)
		Agree	52(6.4%)	132(70.5%)	331(75.0%)	515(35.9%)
		Strongly Agree	19(2.3%)	41(21.9%)	89(20.1%)	149(10.4%)
9	ICT gives opportunity to learn more	Strongly Disagree	16(2.0%)	1(0.5%)	1(0.2%)	18(1.3%)
		Disagree	42(5.2%)	2(1.0%)	6(1.3%)	50(3.5%)

		Neutral	90(11.1%)	4(2.1%)	15(3.3%)	109(7.6%)
		Agree	195(24.1%)	47(25.1%)	78(17.6%)	320(22.1%)
		Strongly Agree	463(57.6%)	133(71.2%)	342(77.3%)	938(65.4%)
10	ICT devices enable us to get a greater amount of study materials and Internet resources.	Strongly Disagree	2 (0.2%)	0(.0%)	4(0.9%)	6(.4%)
		Disagree	20(2.4%)	1(0.5%)	10(2.2%)	31(2.2%)
		Neutral	30(3.9%)	4(2.1%)	31(7.0%)	65(4.5%)
		Agree	137(17.0%)	27(14.5%)	83(18.8%)	247(17.2%)
		Strongly Agree	617(76.5%)	155(82.9%)	314(71.1%)	1086(75.7%)

The data presented in the Table 23 and the analysis reveals that ICT has had a positive impact on the students in distance learning. To know the users view various statement were placed and users have to mark as strongly agree, agree, neutral, disagree and strongly disagree with the statements. Out of 1435, majority 1086(75.7%)users ‘Strongly agree’ and 247(17.2%)users ‘Agree’ with the statement, ‘ICT devices enable us to get a greater amount of study materials and Internet resources’. Followed by 938(65.4%) users ‘Strongly agree’ and 320(22.1%) users ‘Agree’ to ‘ICT gives opportunity to learn more’, 887(61.8%) users ‘Strongly agree’ and 432(30.1%) users ‘Agree’ to ‘ICT/ Computers are a fast and efficient means of getting updated information’, 979(68.2%) users ‘Agree’ and 267(18.6%) users ‘Strongly agree’ about ‘ICT helps distance learners acquire new knowledge effectively’. About 817(56.9%)users ‘Strongly agree’ and 405(28.2%) users ‘Agree’ about ‘I do agree that electronic devices like computers, Internet, Television all are very helpful in my studies during examination’, 793(55.3%) users ‘Agree’ and 540(37.6%)users ‘Strongly agree’ to ‘Scored more in examination’. It is also found from the study that 690(48.1%) users ‘Neutral’ and 477(33.2%) users ‘Agree’ with ‘ICT helps to develop higher order thinking skills’, 855(59.6%) users ‘Agree’ and 251(17.5%) users ‘Neutral’ about ‘Studying with the help of computers gives me great pleasure and satisfaction’. Most 862(60.1%)users ‘Disagree’ with the statement of ‘Learning through electronic devices creates eagerness, curiosity and encourages me to do something new’ and 608(42.4%) users ‘Disagree’ with the statement of ‘I prefer getting information on computer screen instead of printed page’.

The responses are in large majority are positive rating with Strongly agree to Agree in most cases. It is factual as lot of e-learning material is created and made available on the websites of the open universities under study especially the e-Gynakosh from IGNOU and e-PGPatashala from INFLIBNET. The only low and average response is for ‘Higher order thinking level’ because the distance learner’s key requirement is to acquire a higher qualification for the reasons mentioned already in an earlier section.

Findings of the study

- The study found out that 591 (41.2%) of males and 844(58.8%) of females. It may be seen from the study that the female respondents are more compared to male respondents.
- On the whole, the large number 579(40.3%) of respondents belongs to the age group of 26-35 years. Followed by 36-40 yearsie ,503(35.1%)and 75 (5.2%)of respondents of the survey belongs to the age group of 41-50 years.
- The study observed that the majority 980(68.2%) of respondents are ‘Employed’, followed by 173(12.1) ‘Businessman’, and 130(9.1) are ‘Students’.
- On the whole,645 (44.9%) of respondents visit the library ‘once a month’, while 426(29.8%) users visit the library ‘occasionally’, 207(14.4%) users visit the library ‘fortnightly’ and only 60(4.2%) of the respondents visit the library ‘daily’.

- The study has found that 597(41.5) of respondents spent '2-3 hours 'in library, 341(23.8) are spent '1-2 hours', 328(22.9) are 3-4 hours and only 44(3.1) are spent 'less than one hour 'in the library.
- The study found out that the majority 1057(73.7%) of the respondents visit the library to read books, while 1044(72.8%) students visit the library to read reference books,1034(72.1%) students visit the library to read newspapers/Magazines,932(64.9%) of students visit the library to collect old question paperand 571(39.8%) students opined that they visit the library for using internet facility.
- Majority of students seek information for Preparing Examination i.e.1166(81.3%),followed byfor preparing notes and then for assignment writing i.e.1157(80.6%),preparing for competitive examination with responses of 1103(76.9%) andlastlyenhance syllabus knowledge and updating from the course material i.e.1049(73.1%).a majority of students seek information for their project work, 326 (91.57%), for preparing class assignments, i.e. 288 (80.89%), to gain general awareness, i.e. 183 (51.40%), preparing class notes 128 (35.95%) and for facilitating the discussion, i.e. 76 (21.34%) and so on.
- The channels with high level of response are shown with colour shades. It shows the Library and Information Centre 1184(82.5%) rank highest with 82.5% and the renaming are Internet with 1157(80.6%), Smart phone1076 (75.0%), Social Media1074 (74.8%), TV/Radio with 883(61.5%) this is quite natural that some of the distance learning education purposes are offering online and virtual learning facilities and some of the are coming regularly from the national Television Transmission.
- The data described above shows that 579(40.4%) respondents are in favour of electronic formats which is highest among the three. However, 540(37.6%) respondents prefer any of the document formats. As much as 316(22.0%) respondents prefer only print documents.
- Majority(72.5%) of students expressed the lack of skills on how to search information, whereas 1018(70.9%) students opined that the process of getting the information is too complicated, and that 886(61.7%) students gave the opinion that authenticity of information, 807(56.2) students feel that information is too vast. It is also observed that 446(31.1%) of respondents opined that the statement of Language is a barrier for seeking information, while 714(49.8%) lack of knowledge in using the library resources.
- About 70% of the respondents are using the computers for more than 2 Years and to be precise, between 2-3 and 3-4 years. Only 13.9% are using for more than 5 years and very small number of users 54 (3.8%) are using computers for less than a year and it is now natural.
- The responses are quite clear and acceptable. As many as 65.2% of them have Good Skills in using the Smart Phone and that device is almost possessed by now by many. The use of the other computer devices are computers 78.8% and the Lap Tops ranking third 58.3%. The use of computer accessories like printers and scanners are quite less as it requires to possess them personally. The use of storage devices like CDs and DVDs and Pen Drives is Very Good to the extent of 45.2% including the digital camera as most of the Smart Phones have a camera device. The use of Copiers is Poor as the respondents are not required to use and handle them personally. Interestingly the results are quite realistic and practical.
- Majority1023(71.3%)of the students of distance education often use the Internet to prepare notes for their academic activity, followed by(89362.2%)of the respondents use it for social networking,849(59.2%)of them very often use Internet for the purpose

of Download notes, study materials, 841(58.6%) of them often use Internet for the purpose of Online learning (E-learning), 773(53.9%) of them often use to keep abreast of latest development in the field, 719(50.1%) of them often use it for professional development. It is also describes that majority 1057(73.7%) of the students of distance education sometimes use it for e-mail communication and only 886(61.7%) respondents rarely use Internet to search other University websites.

- The analysis reveals that ICT has had a positive impact on the students in distance learning. To know the users view various statement were placed and users have to mark as strongly agree, agree, neutral, disagree and strongly disagree with the statements. Out of 1435, majority 1086(75.7%) users 'Strongly agree' and 247(17.2%) users 'Agree' with the statement, 'ICT devices enable us to get a greater amount of study materials and Internet resources'. Followed by 938(65.4%) users 'Strongly agree' and 320(22.1%) users 'Agree' to 'ICT gives opportunity to learn more', 887(61.8%) users 'Strongly agree' and 432(30.1%) users 'Agree' to 'ICT/ Computers are a fast and efficient means of getting updated information', 979(68.2%) users 'Agree' and 267(18.6%) users 'Strongly agree' about 'ICT helps distance learners acquire new knowledge effectively'. About 817(56.9%) users 'Strongly agree' and 405(28.2%) users 'Agree' about 'I do agree that electronic devices like computers, Internet, Television all are very helpful in my studies during examination', 793(55.3%) users 'Agree' and 540(37.6%) users 'Strongly agree' to 'Scored more in examination'. It is also found from the study that 690(48.1%) users 'Neutral' and 477(33.2%) users 'Agree' with 'ICT helps to develop higher order thinking skills', 855(59.6%) users 'Agree' and 251(17.5%) users 'Neutral' about 'Studying with the help of computers gives me great pleasure and satisfaction'. Most 862(60.1%) users 'Disagree' with the statement of 'Learning through electronic devices creates eagerness, curiosity and encourages me to do something new' and 608(42.4%) users 'Disagree' with the statement of 'I prefer getting information on computer screen instead of printed page'.

Conclusion and Recommendations

Distance Learning Institutions' success lies in their capacity to extend learning possibilities to all, including the unreached, poor, disadvantaged, and the society as a whole, thus contributing to the development and growth of manpower. Distance learning has become acknowledged as an efficient alternative scheme for offering education to a diverse patrons at all levels. Distance Learning provides a economic use of academic resources to a huge of learners and one can study in any field while in jobs through distance mode and helps in respects to increase job chances. Therefore, based on the above results of the study recommended that the distance education programme offering universities/ academic institutions is to introduce information literacy classes within the academic period to enable and encourage successful information seeking methods so that relevancy to teaching and learning needs becomes the focus. Libraries to come up with advanced web based services (Web 2.0/Web3.0 tools) to deliver up-to-date information. Distance learners attend various user awareness programme /orientation and training programs to use of Web 2.0 tools for learning to achieve their educational goals. At present ICT tools are very important so the teachers/staff support the distance students for the use of these tools, and to create more awareness on using these tools for learning. To provide more number of books and internet facility. To make the working hours of the library flexible.

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