

EFFECTIVENESS OF INFORMATION AND COMMUNICATION TECHNOLOGY: A STUDY WITH REFERENCE TO SELECTED DEEMED UNIVERSITIES IN TAMILNADU

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ABSTRACT

There have been several studies done on impact of Information and communication technology related to libraries. Very few of them have been conducted in Universities library. Virtually speaking none of the study were focused on deemed university libraries. The present paper provides empirical evidence to ascertain Impact of Information and communication technology in the deemed university libraries of Tamilnadu state. Data was obtained from 195 respondents who are all using deemed universities library for various purpose. Results indicate that Information and Communication technology has progressively impacted on increased or decreased in the usage of libraries among the users at deemed universities as might be expected. Finally results shows that there are 6 variables were tested with 94 questions in the questionnaire including 6 personal questions. Additionally, results indicate that out of the tested variables almost all the variable were showing positive relationship with the respondents opinion towards the deemed university libraries. The following facets namely purpose of visiting libraries, available electronic resource, bibliographic information, formal source of information and informal source of information, utilization of library service and Academic motivation of the Deemed University ICT libraries has created good impact among the users.

Key word: *Deemed University, E-learning, ICT, Libraries, Users, and Tamilnadu*

INTRODUCTION

Information is all round us and is the staple diet of human beings. Information is variously perceived as facts, intelligence, data, news and knowledge. Information has been a common ingredient to all areas of human endeavor, be it the day-today affairs of business, matters of life and death or the most trivial of pursuits.

In a modern industrial society there are negligibly a few individuals, who do not, from time to time, occasionally or frequently have any requirement for information. It is an essential accompaniment of almost every social activity.

Information is considered as important that contributes towards the development of a nation. It provides the core for the development of knowledge, the basis for innovations, the resources for informed public, and as a result, becomes a key commodity for the progress of a society. Acknowledging the significance of information in national development, "Wasserman (1991) has noted that it is not an accident that the developed nations are those in which information products and services have been brought into being and are widely exploited, first in conventional forms and later through computer intervention". Members of a society acquire the needed information from a variety of sources. However, several of these sources are expensive, complex or difficult for individuals to acquire and use. Therefore, the role of libraries becomes vital in meeting the information needs of individuals in the society. Libraries develop their collections, facilities and services to meet the information needs of their patrons.

Over the past twenty seven years, academic libraries have been affected by changes in information and communication technology (Krubu and Osawaru 2011). The rate of changes is still accelerating in this area. The introduction of various Information Technology (IT) trends has led to reorganization, change in work patterns, and demand for new skills, job retraining and reclassification positions. Technological advancement of the past twenty five years, such as the electronic database, online services, CD-ROMs and introduction of internet has radically transformed access to information. Rana (2009) describes that ICT holds the key to the success of modernizing information services. Applications of ICT are numerous but mainly it is used in converting the existing paper-print records in the entire process of storage, retrieval and dissemination.

ICT has impacted on every sphere of academic library activity especially in the form of the library collection development strategies, library building and consortia. ICT presents an opportunity to provide value-added information services and access to a wide variety of digital based information resources to their clients. Furthermore, academic libraries are also using modern ICTs to automate their core functions, implement efficient and effective library cooperation and resource sharing networks, implement management information

systems, develop institutional repositories of digital local contents, digital libraries and initiate ICT based capacity building programmes for library users.

Information and Communication Technology (ICT) has brought unique changes and transformation to academic library and information services, conventional LIS such as OPAC, users services, reference services, bibliographic services, current awareness services (CAS), Document delivery, Inter-Library Loan (ILL) and Audio visual services and customer relations can be provided more efficiently and effectively using ICT, as they offer convenient time, place, cost effectiveness, faster and most-up-to-date dissemination and end user's involvement in the library and information services process. The impact of ICT characterized on information services by changes in format, contents and method of production and delivery of information products. Emergence of internet as the largest repository of information and knowledge, changed the role of library and information science professionals from intermediary to facilitator, new tools for dissemination of information and shift from physical to virtual services environment and extinction of some conventional information services and emergence of new and innovational web based.

Information and Communication Technology (ICT)

Information and Communication Technology, usually abbreviated as ICT, is often used as an extended synonym for Information Technology (IT), but is usually a more general term that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers, middleware as well as necessary software, storage- and audio-visual systems, which enable users to create, access, store, transmit, and manipulate information. In other words, ICT consists of IT as well as telecommunication, broadcast media, all types of audio - video processing and transmission of network based control and monitoring functions. The expression was first used in 1997 in a report by Dennis Stevenson UK government and promoted by the new National Curriculum documents for the UK in 2000.

The term ICT is also used to refer to the merging (convergence) of audio-visual and telephone networks with computer networks through a single cabling or link system. There are large economic incentives (huge cost savings due to elimination of the telephone network) to merge the audio-visual, building management and telephone network with the computer network system using a single unified system of cabling, signal distribution and management. This in turn has spurred the growth of organizations with the term ICT in their names to indicate their specialization in the process of merging the different network systems.

Growth of the Deemed Universities in Tamil Nadu, India

Over the past 20 years, the higher education capacity in the country has increased largely through private institutions. Currently, 43 % of institutions and 30 % of enrolments are in the private sector.

Until recently, these private institutions consisted mostly of colleges. These private colleges are subject to government control via the self financing engineering universities with which they are affiliated. They lack the autonomy to offer new programs, innovate curricula and evaluation, or change policies in matters of admissions and fees. Many people believe that the affiliating structure is a ban on Indian higher education. However, the affiliating system did ensure rapid expansion, while maintaining the sanctity of admissions and fees. Wherever academic supervision was effective, it also ensured that minimum standards were maintained.

By the mid-1990s, promoters of private colleges saw the regulatory control of the affiliating university and state governments as cumbersome, impeding the full utilization of the colleges' market potential. Thus, they wanted University status to wriggle out of the control of state governments and the affiliating Universities. This resulted in the proliferation of private Universities and private Deemed Universities.

Review of Literature

Sasireka, G and Gopalakrishnan, S (2009)⁷⁶ have examined the use of electronic resources by users in Self –financing Engineering Colleges in Tamilnadu: A select study: The survey covers various aspects like awareness of the user, user satisfaction, user pattern of e-resources and performance of print electronic version.

Gadagin, B.R et al., (2009)⁷⁷ have found out modernized form of library service that reflects a transition within the library world in the way that services are delivered to users. With Library 2.0 library services are constantly updated and revaluated to the best service by library users.

Sampath Kumar and Biradar (2010) examine the use of Information Communication Technology (ICT) in 31 college libraries in Karnataka, India by investigating the ICT infrastructure, current status of library automation, barriers to implementation of library automation and also librarians' attitudes towards the use of ICT. Data-gathering tools used are inclusive of questionnaire, observation and informal interview with selected college librarians. Application of ICT in Indian college libraries has not reached a very high level. Lack of budget, lack of manpower, lack of skilled staff and lack of 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. This is a comprehensive study on the use of ICT in Indian college libraries. Its findings should help college librarians, local government and also the University Grants Commission (UGC), New Delhi.

Anunobi, Chinwe and Edoaka Benson (2010) examined the uses of Communication and Information Technologies (ICT) in the libraries in federal Universities in southern Nigeria. A variety of federal facilities were studied including the University of Nigeria, the Federal University of Technology Owerri, and Obafemi Awolowo University. A number of topics are addressed including identification of the serial operations performed with ICT tools, the type of ICT facilities used and data collection and performance evaluation.

It should be clearly seen from the above discussion that many studies have highlighted the importance of evaluation of library resources and services. A few studies have highlighted the information use behavior of students and faculty members of using library resources and services. Those studies are based on western experience and there is no systematic study on Tamil, when compared with the previous study.

Statement of Problem

Despite the enormous benefits that are experienced in the impact of ICT in Deemed University Libraries in Tamil Nadu, Deemed University Libraries still experience some obstacles or hindrances in the effective and efficient use of the ICT resources in the library. Today, ICT acquisition and implementation are facing a lot of problems. This research work is being conducted to expose some of the inhibiting factors that are hindering the impact of ICT on Deemed University Libraries in Tamil Nadu. Among the militating factors hindering the impact of ICT in Deemed University Libraries in Tamil Nadu, is the capital investment to buy hardware, software and standby generators for the library. Lack of search skills, lack of qualified staff, and automation at infancy level, epileptic power supply, and technical know - how are some of the problems encountered by the Deemed University Libraries (DUL).

Objectives of the study

1. To ascertain the level of computerization of Deemed University Libraries (DUL) in Tamilnadu.
2. To determine the usefulness of ICT resources in Deemed University Libraries (DUL) in Tamilnadu.
3. To determine the effectiveness of ICT in Deemed University Library (DUL) in Tamilnadu.

Hypotheses

1. H₀: There is no significant difference between computer acquaintance of the respondents and their opinion towards utilisation of library science
2. H₀: There is no significant association between the age of the respondents and respondents' opinion towards availability of electronic resources in libraries.

Research Methodology

There are 25 Deemed Universities are identified as sample for this study. Keeping in view the objectives of the study, an effort is made to evolve a suitable methodology of the study. The questionnaire method was considered the most appropriate one for this study because it can measure user's back ground, experience and what they know about electronic information. It was well suited to the research questions taken up for this study.

Based on the available infrastructure, resources and services available in the Deemed University Libraries (DUL), 10 questionnaires each were distributed to all 25 Deemed Universities in Tamil Nadu. Totally 290 questionnaires were distributed out of which 195 users' questionnaires were received.

Analysis and Discussion

Demographical background of the respondents

The highest number of [96] respondents are in the age group of 26 and 30 years which constitutes about 49.2% and 18.5 % of the respondents belong to the age group below 31 and 35 years. 17.4% of the respondents belong to the group of 36 yrs & above. The lowest 14.9 % of them ranges between 18 and 25 years. With regards to gender of the respondents, there are 133 respondents are men which constitute 68.2%, whereas, 62 respondents are women constituting 31.8%. Hence the gender of the respondents would fall in a mixed up combinations. As far as Educational Qualification concerns there are 128 respondents have completed post graduate courses which constitute 65.6% and remaining 67 respondents have completed under graduate courses which constitutes 34.4 %. It can be understood from the above table that the highest percentage of the respondents have completed post graduates degrees. With respect to designation of the respondents there are 45.6% of the respondents belong to students' category and 31.8% of the respondents are librarians and 19.5% of the respondents fall under Associate professors' category and only 3.1% of the respondents are research scholars. Hence the spectrum of the respondents' opinion will be helpful to derive validity conclusions. Based on frequency of using library There are 44.1% of the respondents who use the library every day and 36.9% of the respondents access the library once a week and 10.8% of the respondents are accessing library thrice a week and rest 8.2% of the respondents use the library twice a week.

Table – 1: Distribution of the respondents based on various dimensions of effectiveness of ICT enabled Deemed University Library

Sl.no	Various dimensions	No.of respondents (n=195)	Percentage (100%)
1	Purpose of library visit		
	Low	123	63.1
	High	72	36.9
	<i>Mean: 15.43 / Median: 15.00 / S.D.: 4.817 / Min.: 9 / Max.: 27</i>		
2	Available of Electronic resources		
	Low	111	56.9
	High	84	43.1
	<i>Mean: 3.94 / Median: 3.00 / S.D.: 1.927 / Min.: 1 / Max.: 7</i>		
3	Bibliographic Information		
	Low	125	64.1
	High	70	35.9
	<i>Mean: 24.85 / Median: 23.00 / S.D.: 4.945 / Min.: 16 / Max.: 36</i>		
4	Formal Sources of Library Information		
	Low	140	71.8
	High	55	28.2
	<i>Mean: 17.59 / Median: 16.00 / S.D.: 5.777 / Min.: 11 / Max.: 30</i>		
5	Informal Sources of Library Information		
	Low	145	74.4
	High	50	25.6
	<i>Mean: 18.01 / Median: 16.00 / S.D.: 5.396 / Min.: 11 / Max.: 30</i>		
6	Utilization of Library Services		
	Low	138	70.8
	High	57	29.2
	<i>Mean: 50.12 / Median: 47.00 / S.D.: 9.346 / Min.: 38 / Max.: 72</i>		
7	Academic Motivation		
	Low	125	64.1
	High	70	35.9
	<i>Mean: 22.43 / Median: 21.00 / S.D.: 7.737 / Min.: 13 / Max.: 39</i>		

Sources; Primary data

- The above table shows that 63.1% of the respondents have a low level of satisfaction towards the purpose of visits to library and 36.9% of the respondents have a high level of satisfaction. It is clear that 56.9% of the respondents have a low level of satisfaction towards the available electronic resource in the deemed university library and 43.1% of respondents have a high level of satisfaction.
- Bibliographical information shows that 64.1% of the respondents were in a low level and the remaining 35.95% of the respondents were at a high level of satisfaction towards bibliographical information in deemed universities' libraries.
- With respect to format sources of library information, 71.8% of the respondents are at a low level of satisfaction and only 28.2% of the respondents are at a high level of satisfaction towards the statement and its mean value is 17.59, median is 16.
- Sources of library information represent that 74.4% of the respondents are in a low level and the remaining 25.6% of the respondents are at a high level of satisfaction.
- In relation to the utilisation of library service, 70.8% are in a low level of satisfaction and 29.2% are in a high level of satisfaction towards the library utilisation
- With respect to academic motivation, there are 64.1% of the respondents who are in a low level of satisfaction and 35.9% of them are in a high level of satisfaction towards the academic motivation.

Hypothesis Test -1

Research hypothesis

H₁: There is a significant association between the age of the respondents and respondents' opinion towards availability of electronic resources in libraries.

Null hypothesis

H₀: There is no significant association between the age of the respondents and respondents' opinion towards availability of electronic resources in libraries

Table 2: Chi square Test between the age of the respondents and various dimensions of effectiveness of ICT enabled Deemed University Library.

Sl.no	Various dimensions	Age				Statistical inference
		18 to 25yrs (n=29)	26 to 30yrs (n=96)	31 to 35yrs (n=36)	36yrs & above (n=34)	
1	Purpose of library visit					X ² =22.462 Df=3 .000<0.05 Significant
	Low	17(58.6%)	74(77.1%)	21(58.3%)	11(34.4%)	
	High	12(41.4%)	22(22.9%)	15(41.7%)	23(67.6%)	
2	Available of Electronic resources					X ² =6.413 Df=3 .093<0.05 Significant
	Low	17(58.6%)	62(64.6%)	15(41.7%)	17(50%)	
	High	12(41.4%)	34(35.4%)	21(58.3%)	17(50%)	
3	Bibliographic Information					X ² =13.374 Df=3 .004<0.05 Significant
	Low	16(55.2%)	73(76%)	21(58.3%)	15(44.1%)	
	High	13(44.8%)	23(24%)	15(41.7%)	19(55.9%)	
4	Formal Sources of Library Information					X ² =32.822 Df=3 .000<0.05 Significant
	Low	16(55.2%)	80(83.3%)	31(86.1%)	13(38.2%)	
	High	13(44.8%)	16(16.7%)	5(13.9%)	21(61.8%)	
5	Informal Sources of Library Information					X ² =32.974 Df=3 .000<0.05 Significant
	Low	15(51.7%)	86(89.6%)	28(77.8%)	16(47.1%)	
	High	14(48.3%)	10(10.4%)	8(22.2%)	18(52.9%)	
6	Utilization of Library Services					X ² =48.452 Df=3 .000<0.05 Significant
	Low	13(44.8%)	87(90.6%)	26(72.2%)	12(35.3%)	
	High	16(55.2%)	9(9.4%)	10(27.8%)	22(64.7%)	
7	Academic Motivation					X ² =20.050 Df=3 .000<0.05 Significant
	Low	11(37.9%)	66(68.8%)	31(86.1%)	17(50%)	
	High	18(62.1%)	30(31.3%)	5(13.9%)	17(50%)	

Inference

The calculated value $X^2 = 6.413$ and the ($P < 0.05$), i.e., $.093 < 0.05$ Hence the calculated value is less than the table value. Therefore, the research hypothesis is accepted and the null hypothesis is rejected. The association between the age of the respondents and their opinion towards the availability of electronic resource in deemed university libraries shows that there is a significant association. Therefore it is clear that opinions of the respondents are varying according to their age classification.

Research hypothesis Test - 2

H₁: There is a significant difference between computer acquaintance of the respondents and their opinion towards utilisation of library science

Null hypothesis

H₀: There is no significant difference between computer acquaintance of the respondents and their opinion towards utilisation of library science

Table 3 : “T” test on the difference between the respondents’ computer acquaintance and various dimensions of ICT at deemed university libraries

Sl.no	Computer acquaintance	Mean	S.D	Statistical inference
1	Purpose of library visit			
	Yes (n=110)	16.21	5.250	T=2.622 .009<0.05 Significant
	No (n=85)	14.41	3.998	
2	Availability of Electronic resources			
	Yes (n=110)	4.57	1.894	T=5.574 .000<0.05 Significant
	No (n=85)	3.13	1.653	
3	Bibliographic Information			
	Yes (n=110)	26.15	5.111	T=4.364 .000<0.05 Significant
	No (n=85)	23.16	4.183	
4	Formal Sources of Library Information			
	Yes (n=110)	19.33	6.322	T=5.073 .000<0.05 Significant
	No (n=85)	15.34	4.019	
5	Informal Sources of Library Information			
	Yes (n=110)	19.43	5.919	T=4.378 .000<0.05 Significant
	No (n=85)	16.16	3.964	
6	Utilization of Library Services			
	Yes (n=110)	52.78	9.976	T=4.765 .000<0.05 Significant
	No (n=85)	46.68	7.168	
7	Academic Motivation			
	Yes (n=110)	25.41	7.700	T=6.804 .000<0.05 Significant
	No (n=85)	18.56	5.879	

Df=193

Inference

The calculated value T=4.765 and (P<0.05). The calculated value is less than the table value. So the research hypothesis is accepted and the null hypothesis is rejected. The above t test has confirmed that there is a significant relationship between the computer acquaintance of the respondents and their opinion towards the utilisation of library science. Therefore the respondents who have more knowledge on computer would understand the utility level of library information.

CONCLUSION

Library and information centers are playing a crucial role in the growth and development of the nation directly/indirectly by providing better services to the members of the society. This study examines the effect of impact of information and communication technology (ICT) in deemed university libraries of Tamil nadu. Results indicate that most of the deemed university library well equipped with ICT enabled libraries, of which most of the libraries were highly satisfied towards the function of ICT enabled deemed universities libraries with the tested variables. There are 6 variables were tested with 94 questions in the questionnaire including 6 personal questions. Additionally, results indicate that out of the tested variables almost all the variable were showing positive relationship with the respondents opinion towards the deemed university libraries. The following facets namely purpose of visiting libraries, available electronic resource, bibliographic information, formal source of information and informal source of information, utilization of library service and Academic motivation of the Deemed University ICT libraries has created good impact among the users. Finally results shows that out the tested hypotheses, 4 hypotheses were accepted namely, age, designations, frequency of visiting library and time spending whereas other 4 hypotheses were rejected namely gender, educational qualification, computer acquaintance and utilization of library information toward the ICT enabled deemed university library . In generally it can be said that the results of this study indicate the extant of the high levels of Impact that exist among deemed university libraries due to arrival of information and communication technology.

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