Research Article

UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN FACULTY MEMBERS OF SCIENCE IN TAMILNADU UNIVERSITIES: A STUDY

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A R T I C L E I N F O	A B S T R A C T
	This paper aims at evaluating and analyzing of Utilization of information and communication technology (ICT) in faculty members of science in Tamilnadu universities. Total of 300 respondents were analyzed and identified academic status respondents using ICT resoureces, time spent for academic status respondents using ICT resoureces, purpose of using ICT resources, learning through internet, usage of web browser and satisfaction of accessing ICT resources. This study is useful the knowledge of faculty members and develop the library activities.

INTRODUCTION

Information and Communication Technology (ICT) is the biggest achievement in the evolution of mankind ICT is any system designed to gather. Process, or distribute information or it is the science and skill of all aspects of computing, data storage, and communication. ICT may be any combination of tools and procedures that facilitate the generation, acquisition, storage, organization, retrieval, searching, viewing, updating and transmission of information using electronic means. The tools used in ICT include purpose-built computer programs, databases, communication networks, analysis and design methods, programming languages, artificial intelligence, robotics, knowledge bases, etc. ICT has long standing influence in almost all areas of human activity. It acts as a catalyst in all spheres of science and technology.

The availability of information at right time and in the right form is of utmost importance in the development of knowledge as well as in all the development activities. It has become very difficult to manage the information manually due to the explosive growth knowledge. Knowledge in almost all fields in increasing tremendously in a multidimensional way. There is need for proper organization and management of knowledge. The advent of digital computers, advances in telecommunication technology, widespread use of networking, explosive growth of internet world wide packet networks,

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optical discs and other mass storage media, interactive video technology, image technology, computer graphic technology, virtual reality and the growth of public and private database have opened up new possibilities in dealing with the collection, organization and dissemination of information.

Functions and Benefits of ICT for Networking and Resource sharing

Traditionally, computers in libraries have been used and in most cases are still being used to automate the following functions (Islam and Islam, 2006: 809-817):

- ➢ Acquisition and budget
- ➢ Cataloguing and short loans
- ➢ Circulation
- ➢ Serial control (Periodicals)
- ➢ Provision of access to online catalogue.

Since the 1950s, use of ICT in libraries has basically gone through four stages, corresponding to the major reasons for automating (Borgan, 1997: 215-249):

- ➢ Improving the efficiency of internal operations
- ➢ Improving access to local library resources
- ➢ Providing access to resources outside the library
- ➢ Interoperability of information systems.

Use of ICT for automated library activities for networking and resource sharing

ICT is used in various fields of library activities. Some of the areas where new technologies can perfectly be used are as follow (Islam and Islam, 2006: 814):

Acquisition

> ➢ Acquisition/Accession list
> ➢ Order file/report

Serials management

> ➢ Serials cheek-in/out and claiming
> ➢ Union/holding list

Cataloguing/Classification

> ➢ Catalogue card/label production
> ➢ Retrospective conversion
> ➢ On-line catalogue

Circulation

> ➢ Issuing
> ➢ Inter library loan
> ➢ Reservations
> ➢ Over dues

Audio-visual management

> ➢ AV acquisition/cataloging
> ➢ Accounting/budgeting
> ➢ Word processing/mailing
> ➢ Scheduling/planning
> ➢ Statistics/report

Information storage/retrieval

> ➢ Database construction
> ➢ Online database searching
> ➢ Down loading/uploading
> ➢ Indexing and abstracting

Reference/Information services

> ➢ Bibliographic listings
> ➢ Library instructions
> ➢ Public access/computer literacy.

All India Council for Technical Education (AICTE)

The All India Council for Technical Education (AICTE) is the statutory body and a National-level council for technical education, under the department of Higher Education, Ministry of Human Resource Development. Established in November, 1945 first as an advisory body and later on in 1987 it has given statutory status by an Act of Parliament. AICTE is responsible for proper planning and co-ordinate development of the technical education and management education system in India.

In 2009, the Union Minister of Education formally communicated his intentions of closing down AICTE and related body, in favors of a larger regulatory body (NBA). The AICTE will be superseded by the National Board of Accreditation (NBA). The NBA which currently operates under the wing of AICTE will be converted into an independent body. 1.8 ACCREDITATION – NBA. The National Board of Accreditation (NBA) was constituted in 1994 as per the AICTE Act, 1987. The accreditation process is not meant for fault finding, but to reveal the areas of strengths and weaknesses, which eventually help the institutions in improving their academic efficiency. The criteria for accreditation were finalized after a series of workshops and meetings conducted all over the country.

Digital Library

Digital libraries are emerging as an important area of research and education for information science, computer science and a number of other related disciplines (Sharma & Urs, 2008). The term digital libraries existed since early of1990's, but no conclusive definition exists due to the fact that different people seem to adopt them for their context of usage (Gard, 2001). According to Razilan *et al*. (2009b), it has emerged as a result of advances in computing and information systems technologies, and has been introduced in universities and to public. With this significant advancement in network and computing technologies, digital library needs to penetrate in diverging its usage to fulfill its targeted users. Apart from owing its diverse function from those technologies, information system like digital library system needs to play its extraordinary role (as compared to traditional library) in providing transformation of paradigm in knowledge endeavor process among its targeted community.

Indeed, this kind of transformation can be observed have given impact on the way of information seeking process among users where this process is formed by how digital library provide its services to humanities especially to the community of scholars. We can witness the difference between today's and two decades back on how information culture among users has changed and keeps on changing. This might not cover the whole spectrum of digital library services however the drastic changes are due to keeping pace with the rapid changes in information systems and information technologies.

Academic Digital library

Academic digital library is digital library designed for serving its specific purposes to academic community using institutional digitized repositories. The specific purposes are mainly covering the specific academic resources and services in meeting academic users' needs. Academic resources that have been digitized have made a significant impaction how academic users do their research. Dependency on using online resources provided by institutions digital library is drastically increasing from time to time however the use of printed scholarly materials may still in existence. Academic digital libraries are becoming crucial tools for information seekers like academic community as they live with information and they need to grow their knowledge (Razilan *et al*., 2009b). They emphasized in growing and enhancing knowledge, this community seeks current, fast, reliable and accurate information where digital libraries systems should meet these requirements. Further, the usefulness of digital library relates with the usability of the system – how the system is used and how it is usable to users. Wallace *et al*. (1996) listed six main characteristics of digital library for education:

- The content is current.
- The content can be from primary resources.
- The content is comprehensive where the depth and breadth of many disciplines are provided.
- The resources are presented in various formats.
- The content is readily accessible.
- The student can publish online.
- Reuse the teaching resources. The above characteristics have made digital lib

The above characteristics have made digital library superior to traditional library. Users are the closest entity to use and assess digital library, as noted by Razilan *et al*. (2009a), usability

assessment is capable of revealing two main contexts. First, users' information needs and expectations towards the digital library and secondly how acceptable the system is in supporting and fitting into education environments.

Digital Library Services

Digital library services for academic community may not suffice to only on offering online contents. Different area of disciplines requires different resources, formats or usage. Prior to the development of digital library, institutions should synergize various human resources to come up with an academic digital library. Various human resources may comprise of librarian, educator, programmer, author, technologist and so forth. Via synergizing these several of resources, digital library services can be developed. As online basis provider of scholarly publications, digital library services may not bounded by providing only scholar publications. Digital library needs to penetrate further in providing services that meets to scholars' requirements. In this context of Tamilnadu University's digital library, the existing services are including:

Periodicals

Providing open access to e-journals or databases that are subscribed by institution. It should be current and sufficient for all study/research disciplines.

E-book and E-media

Liaison with third party in having E-books and continuously updating with latest published books. E-media includes music, E-movie and so forth.

Reference

Providing online help for library users in finding information, answering questions and so forth to fulfilling users' information needs. It can be in the form of email, web forms and instant messaging.

Information Programs

Providing programs which related to information literacy among academic users in fulfilling its diverse functions to diverse disciplines of study/research.

Marketing (like promotion) of all the above

Hold promotions as a mean of marketing activities of any of its new and upcoming programs / events   in order to receive feedback from academic community regarding on the services provided.

This paper however highlights the coverage of digital library services with respect to awareness on these services by academic community, and also on digital reference services; that based on Tamilnadu universities environment.

Review of Literature

Gulati, Anjali (2004) Most of the Indian University Libraries are accessible not only to the academic and research communities but also to the general public. In this paper, an attempt is made to describe the effects of ICT developments on Indian University Libraries, how much they have been able to catch up with more developed institutions and what the future agenda for connecting knowledge and communities will be.

Vijayakumar (2003) an idea about ICT developments in India, ICT applications in Indian University Libraries, and the role of INFLIBNET and future programs. The status of information and communication technologies usage in Indian libraries. ICT applications are limited to large/Metro cities of India.

Maharana, Bulu, *et al.,* (2009) found that ICT can be useful took to address problems in medical education, but the lack of Technology and resources is still a serious limitation. The in adequacy of qualified technical staff has stood in the way of user's satisfaction. Most users are deprived of access to the vast medical literature available in electronic format. Absence of co-operation among the medical libraries in Orissa or at the national level, including the lack of even interlibrary loan.

Objectives

The Following Objectives are Given Below

➢ To study the academic status of respondents using ICT resources by science faculty members in Tamilnadu universities.
➢ To find out the time spent for accessing ICT resources.
➢ To identify the purpose of accessing ICT resources.
➢ To find out the respondents satisfaction of accessing ICT resources.

Hypothesis

The Following Objectives Framed Hypothesis

➢ There is significance academic status of respondents using ICT resources by science faculty members in Tamilnadu universities.
➢ There is no significance academic status of respondents; time spent for accessing ICT resources.
➢ There is significance academic status of respondents, purpose of accessing ICT resources.
➢ There is no significance academic status of respondent's satisfaction of accessing ICT resources.

Sampling

The whole area the study, Tamilnadu has been divided into Science faculty members of Tamilnadu universities. The researcher selected 5 universities respondents from each university through mailed questionnaire survey. Totally 350 respondents were take into consideration and 50 of there were negligible due to non- response of the questionnaire. Thus totally 300 respondents are considered for the sample study. The sampling of study is based on purposive random sampling.

Data Collection

The researcher has employed a well structured questionnaire for collecting the data from the respondents. The researcher sent questionnaire from the science faculty members in Tamilnadu selected 5 universities namely Annamalai University, Tamil university, PRIST University, Bharthiyar University and Bharathidasan University.

Limitation study

The study mainly applicable for Utilization of information and communication technology (ICT) in faculty members of science in Tamilnadu Universities: A Study. Only 5 universities are selected for this study studying of all institution would be not possible for an individual researcher, owing to constraints of money, time, energy and efforts.

Data and Analysis

Table 1 Academic status of sample respondents of using ICT Resources

S.no	Academic status	Respondents	Persentage
1	Professor	85	28.33
2	Associate professor	100	33.33
3	Assistant professor	115	38.33
	Total	**300**	**100.0**

Table 1 shows that out of 300 respondents belonging to Academic status of respondents of using ICT Resources 115(38.33) highly Asst professor are respondents, 100(33.33) Associate professor are respondents Second Poisson from the Designation wise respondents of using ICT Resources 85(28.33)Professor Respondents third Poisson from the Designation wise respondents of using ICT Resources.

Table 2 Academic status wise respondents, time spent for accessing ICTresources.

S.no	Academic status	1 – 2hr	2 -3 hr	3 – 4hr	Above 4 hr	Total
1	Professor	40(28.57)	30(33.33)	10(22.22)	5(14.28)	85(28.33)
2	Associate professor	50(35.71)	20(22.22)	15(33.33)	15(42.85)	100(33.33)
3	Assistant professor	40(28.57)	40(44.44)	20(44.44)	15(42.85)	115(38.33)
	Total	**140 (46.66)**	**90(30.0)**	**45(15.0)**	**35(11.66)**	**300(100.0)**

Table 2 shows that out of 300 respondents belonging to Academic status respondents, 115(38.33) highly Asst professor are respondents, time spent for accessing ICT Resources, 100(33.33) Associate professor are respondents, time spent for accessing ICT Resources Second Poisson. 85(28.33) Professor Respondents third Poisson from the Academic status respondents time spent for accessing ICT Resources.

Table 3 Academic status wise respondent's purpose of using ICTresources.

S.NO	Ict Resources	Professor	Associate professor	Assistant professor	Total
1	Searching Information	25(27.77)	30(33.33)	35(27.77)	90(30.0)
2	Lecture Notes	10(28.57)	10(28.57)	15(42.85)	35(11.66)
3	Entertainments	5(16.66)	10(33.33)	15(50.0)	30(10.0)
4	Collect subject Information	10(40.0)	5(20.0)	10(40.0)	25(8.33)
5	General Knowledge	10(28.57)	15(42.85)	10(28.57)	35(11.66)
6	Career Development	5(20.0)	10(40.0)	10(40.0)	25(8.33)
7	For Research Work	10(28.57)	15(42.85)	10(28.57)	35(11.66)
8	For Writing Paper	10(40.0)	5(20.0)	10(40.0)	25(8.33)
	Total	**85(28.33)**	**100(33.33)**	**115(38.33)**	**300(100.0)**

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Table 3 shows that out of 300 respondents belonging to Academic status respondents, 115 (38.33) highly Asst professor are respondents, purpose of using ICT resources, 100 (33.33) Associate professor are respondents, purpose of using ICTresources Second Poisson. 85 (28.33) Professor Respondents third Poisson from the Academic status respondents purpose of using ICT resources.

Table 4 Academic status wise respondents leaning through Internet

S.no	Academic status	Self leaning	From experts friends	Training camera	News paper & media	Total
1	Professor	20(20.0)	20(33.33)	20(33.33)	25(31.25)	85(28.33)
2	Associate professor	30(30.0)	20(33.33)	20(33.33)	30(37.5)	100(33.33)
3	Assistant professor	50(50.0)	20(33.33)	20(33.33)	25(31.25)	115(38.33)
	Total	**100(33.33)**	**60(20.0)**	**60(20.0)**	**80(26.66)**	**300(100.0)**

Table 4 shows that out of 300 respondents belonging to Academic status respondents, 115 (38.33) highly Asst professor are respondents leaning through Internet, 100 (33.33) Associate professor are respondents, leaning through Internet Second Poisson. 85 (28.33) Professor Respondents third Poisson from the Academic status respondents leaning through Internet.

Finding

> It is could be seen clearly from above discussion that as highly as respondents of using ICT Resources 115 (38.33) highly Asst professor.

> It is observed that as highly as 140(46.66) Academic status respondents from the 1 – 2hr time spent for accessing ICT Resources. 90(30.0) respondents Second Poisson from the 2 -3 hr time spent for accessing ICT Resources. 45(15.0) respondents third Poisson from the 3 – 4hr time spent for accessing ICT Resources.

> It is observed that as highly as 90(30.0) Searching Information respondents from the purpose of using ICTresources. 35 (11.66) Lecture Notes, General Knowledge and For Research Work respondents Second Poisson from the purpose of using ICTresources.30 (10.0) Entertainments respondents third Poisson from the purpose of using ICTresources.

> It is observed that as highly as 100 (33.33) Self leaning respondents from the leaning through Internet.80 (26.66) News paper& media respondents Second Poisson from the leaning through Internet.60 (20.0) From experts friends and Training camera respondents third Poisson from the purpose of using ICTresources.

CONCLUSION

In the electronic environment "Utilization of information and communication technology (ICT) in faculty members of science in Tamilnadu universities "has built their library collections in print and electronic form. They have incorporated new web technologies that provide users better, dynamic, user friendly environment that is interactive and attractive with multimedia collections and services. Many Tamilnadu university libraries are currently building substantial collections of full text journals in electronic format and continue to access various online databases. This created focused attention on functions of collection management in Tamilnadu university libraries. In the changed information environment issues like planning, collection building, budgeting, organizing, processing, assessment, evaluation, access, licensing, digital preservation and dissemination of both print and electronic resources need to be discussed elaborately in collection development.

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