

TECHNOLOGICAL KNOWLEDGE OF RESEARCH SCHOLARS AND THEIR PROBLEMS IN USING ICT IN BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALLI

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ABSTRACT

The revolution in information and communication technology is ruling the globe, and it has an important role in the developing countries like India. ICT helps the scholars to build their ICT skills and help them to learn through computer assisted learning. The main objective of the study is to examine the technological knowledge of research scholars in Higher education and research. This paper employs quantitative approach to find out the technological knowledge of research scholars and their problems in using ICT. According to the study's findings, 112 (78.8%) scholars recommends digital library facility and 106(74.6%) recommends automation of Library. 114 (80.2 %) respondents said they would use internet to download e-resources, 27 (19 %) said they would go online shopping, and 120 (84.5 %) said they would prepare assignments. 87(61.2%) faced reliability problem and 142(100%) faced physical strain while using ICT services.

Keywords: Internet Use, E- resources, Digital Library, Search Engine, Research Scholar

INTRODUCTION

The information and communication technology in education was launched in India before two decades. The amount to which ICT systems are used, the speed with which they are accessed, and the competence with which they are applied determines a country's progress. Internet connectivity should be provided to all research scholars free of cost to ensure that their learning process is not affected. The use of ICT should enhance and help researchers in their academic purpose. Nowadays all the countries employ ICT to sustain in this competitive global market. Information and Communication Technologies (ICTs) are now widely acknowledged as having a ubiquitous impact on the research in education. Since the advent of the moveable type printing techniques, information and communication technology is largely regarded as the greatest significant change that humanity has seen. Worldwide research proved that students who have technological knowledge had more innovative capabilities than the students who are not exposed to technology.

RELATED LITERATURES

Jabbar, Saqib, and Muhammad (2020) explored a study on how research scholars accessed and used the Institutional Repository (IR). It also looked into differences in opinion based on participants' gender, age, and educational background. In addition, the necessity for training and supervision in order to make good use of IR has been included. A questionnaire-based survey was used to collect data from M.Phil. and Ph.D students in seven departments at the COMSATS Institute of Information Technology in Lahore. The findings revealed that research scholars only use IR on a limited basis and have restricted access to the publications. They have accessed the IR in order to do their tasks. They stated that they require substantial training in order to effectively employ IR. They stated that they require substantial training in order to effectively employ IR.

Ansari (2020) investigated on the use and awareness of E-resources among research scholars of Literature Subjects in Banaras Hindu University. The study's main objective was to determine how well users are aware of accessible

e-resources. An online questionnaire was designed for this purpose and distributed to 100 Research Scholars of the literary subjects. According to the survey the majority of respondents are aware of the features of e-resources. They are aware that e-resources are available online and provide creative ways to search for information based on the requirement. The research also highlighted that the most serious issue is a lack of technical knowledge.

Amanullah, Banoo, and Khiste (2019) focused on instructors' and researchers' experiences using the E-database of Kashmir University's Allama Iqbal library. The main objective is to find out the use of Library e-resources by research scholars and faculty members. This study was conducted with the help of a well-designed questionnaire and discovered that there has been a significant increase in the use of databases, that users' attitudes toward e-resources are positive, and that the majority of the "time spent" by users in the library is spent by interacting with the available e-databases. Slow internet access is a key issue for the majority of (85.7%) teachers and (62.8%) research scholars.

Shanmugam, and Shanmugamoorthy (2016) conducted a study on the role of ICT in Information Seeking and use amongst research scholar in Higher Education. The purpose of this study was to determine the knowledge of students, research scholars and faculty members from ten institutions. The data was collected from PG students, Research Scholars, and Faculty members of 10 colleges of Bharathiar University using a well-structured questionnaire. The survey approach is used among PG students, research scholars, and employees. It was found that out of the total 1561 respondents, 223 (14.29%) respondents claimed that they access current information, 242 (15.50%) respondents indicated improved professional competence, 387 (24.79%) respondents indicated easier and faster access. 266 (17.04%) respondents indicated wider information access and 443 (28.38%) respondents indicated expedited research and academic process.

Siddiquah and Salim (2017) investigated on the ICT facilities, skills, usage, and the problems faced by the students of higher education. The objective of this research is to investigate ICT facilities, skills, usage, and challenges encountered by higher education students when utilising ICT. The population of the study consisted of 250 students from public sector universities in Lahore, Pakistan. The data was analyzed using descriptive statistics. According to the findings, students have computers and Internet access at home and at their colleges. They are proficient in basic skills such as MS Word, Power Point, Internet Searching and Browsing, Social Networking and Email, but are less skilled or incompetent in others such as using a digital library, discussion forums, and blogs. They feel that using ICT aids their learning. The majority of students confront issues such as slow computer speeds, Internet signal problems, malware threats, load shedding, and a lack of Internet access. Universities must invest more in developing infrastructure in order to alleviate ICT-related issues faced by students.

OBJECTIVES OF THE STUDY

The study's major objective of this study was to examine the technological knowledge and its use by research scholars. This study aims to investigate the following objectives:

- To investigate the role of technology in research.
- To assess the use of technology by Research Scholars.
- To examine the technological knowledge of research scholars in Higher education and research.
- To find out particular variables that has hampered research scholar's usage of ICT services.

METHODOLOGY

A questionnaire was designed after conducting a comprehensive review of the related literature. The survey method was used to collect the data from the scholars. 168 research scholars of Bharathidasan University, Tiruchirappalli were selected for the study and questionnaire was distributed among them and only 142 questionnaires were returned completed.

DATA ANALYSIS AND DISCUSSION

a) Use of Computer by Research Scholars

The present condition of computer use by scholars is encouraging. 52% of the scholars use computer on a daily basis, 31% on a weekly basis, and only 17 % on a monthly basis. In one way or other way all were found using

the computer for their research work. Although students believe computers are an important aspect of higher education and research, they use it rarely.

b) Use of Internet by Scholars

All research scholars use the Internet. The table summarizes the reason for using internet.

Table 1: Purpose and frequency of using the Internet

Purpose	Frequency	Percentage
Research purpose	129	90.8%
Download E -resources	114	80.2%
Prepare Assignments	120	84.5%
E-mail	132	92.9%
Online shopping	27	19%
Playing games	28	19.7%
Chatting	52	36.6%

From the above table it was found that majority of research scholars use the internet for research purposes, 114 (80.2 %) scholars said they use it for downloading e-resources, 104 (79.39 %) said they use it for preparing assignments, 132 (92.9 %) said they use it for email, 23 (17.56 %) said they use it for online shopping, 25 (19.08 %) said they use it for playing online games and 49 (37.40 %) scholars said they use it for chatting.

c) Need for ICT assisted library

Research Scholars recommended few ICT facilities needed for them to do their research.

Table 2: ICT facilities recommended by Research Scholars

ICT facilities	Frequency	Percentage
E - Resources	107	75.3%
Digital library facility	112	78.8%
Library websites	103	72.5 %
Automation of library	106	74.6%
Local Area Network for library	116	81.6%

The table above explores the ICT facilities proposed by the research scholars. 75.3% of the scholars recommended for remote access to all e- resources and services. 72.5 % of respondents said they would recommend a library website, and 74.6% said they would advocate library automation. 81.6% of research scholars advocated local area network for the library.

d) ICT Literacy of Research Scholars

Table 3 : Technological Knowledge of Research Scholars

ICT tools and applications	Familiar	Quite Familiar	Not Familiar
Keyboard	86 (60.5 %)	50 (35.2%)	6 (4.2 %)
Internet	77 (54.2 %)	54 (38.0 %)	11 (7.7 %)
E-mail	96 (67.6 %)	42 (29.5 %)	4 (2.8 %)
Printer	70 (49.2 %)	63 (44.3 %)	9 (6.3 %)

Google Meet	64 (45.0 %)	55 (38.7 %)	23 (16.1 %)
MS Word	93 (65.4 %)	46 (32.3 %)	3 (2.1 %)
Excel	47 (33.0 %)	55 (38.7 %)	40 (28.1 %)
PowerPoint	92 (64.7 %)	32 (22.5 %)	18 (12.6 %)

From the table above, it is found that most of the 142 research researchers feel comfortable using the keyboard. 11(7.7%) are not familiar how to use Internet in a proper way. 96(67.6 %) of scholars are comfortable using the email. Surprisingly, 9(6.3%) research researchers are still unsure how to use the printer. 23(16.1%) are not sure how to use Google Meet. Only 3(2.1%) of scholars are not familiar in using MS Word and 40(28.1%) are unsure how to use Excel tool. Almost all the scholars are well versed in using the power point tool.

e) Preferred search engines

Table 4 : Search engines preferred by Research Scholars

Preferred Search engine	Frequency	Percentage
Google	142	100%
Microsoft Bing	75	52.8%
Yahoo	97	68.3%
Scirus	49	34.5%
Iseek	38	26.7%
Yandex	37	26.0%

It is evident from the above table, that Google was the most commonly utilized search engine by the research scholars, with a response rate of 100%. 68.3% scholars used Yahoo and 52.8% scholars used Bing for searching the web. Scirus, isseek, and Yandex are the other search engines, used by the research scholars.

f) Problems in using ICT

There are numerous issues with ICT usage. As a result of this realisation, data was gathered to determine the numerous issues faced by research scholars, which were then listed below.

Table 5 : Problems faced while using ICT services

Problems in using ICT	Frequency	Percentage
Reliability	87	61.2%
High Cost	110	77.4%
Electricity problem	117	82.3%
Slow internet speed	80	56.3%
Unable to access full Test	46	32.3 %
Finding relevant information	54	38 %
Physical Strain	142	100 %
Mental Strain	140	98.5%

From the table above, it is evident that Physical and mental strain were the most common reasons for not using ICT services. Other major problems faced by research scholars are reliability, electricity problem, high costs, slow internet speed with answer rates of 61.2%, 82.3%, 77.4% and 56.3% respectively. 32.5 % scholars were unable to access full test because it's too costly in some websites. 38% scholars find difficult to get relevant information needed for their study.

MAJOR FINDINGS

- Based on the analysis of data collected, it is clear that the majority of Bharathidasan University scholars have excellent knowledge of ICT-based services that they use it daily, which is a positive sign for the research environment. According to the respondents, research will not be productive unless ICT tools and techniques are incorporated in the research process.
- 80.2 % of respondents suggested using an e-resource for their research work. Computer is used by 50 % of people on a daily basis, another 31% on a weekly basis, and just 19 % on a monthly basis.
- In terms of Internet use, 100% of respondents said they utilise it. 129 (90.8 %) of research researchers stated that they utilise the internet for their research purpose. 114 (80.2 %) respondents said they would use internet to download e-resources, 27 (19 %) said they would go online shopping, and 120 (84.5 %) said they would prepare assignments.
- In terms of an ICT facility recommended by a research scholar, e-resource enabling remote access to library materials and services was recommended by 107 out of 142 respondents. A library website is recommended by more than 103 (72 %) of respondents. 112 (78.8 %) scholars recommended digital library facility and 106 (74.6) scholars recommended automation of library.
- 54.2% scholars are comfortable using the internet and 67% scholars are familiar in using email, and the majority of 60.5% scholars are familiar with keyboard. 28.1 % Scholars lack confidence in their ability to use any Excel and 12.6 % scholars are not confident in using PowerPoint tool.
- All the research scholars preferred Google as their preferred search engine. 68.3% scholars used Yahoo and 52.8% scholars used Microsoft Bing. The majority of respondents rated the influence of ICT tools and applications in research as excellent. When it comes to employing ICT services, there are a variety of issues to consider. The biggest issue with using ICT services was physical and mental exhaustion. The other major problems are high cost, reliability, electricity problem and slow internet speed.

SUGGESTIONS

This study found that ICT can be a great tool for addressing issues in educational research. According to this survey, the utilisation of ICT services by scholars is satisfactory. The university central library must take additional steps to enhance the use of ICT related library services by holding orientation programmes to scholars on how to utilize online databases, an automated library system, digital library, and an institutional repository. The University Central Library should also take steps to develop the library website more user-friendly by including links to various ICT-based library resources and services, as well as the construction of a digital library, institutional repository, and library blogs. The library should provide online full text service and video text service to all scholars who visit the library for research purpose. The university's central library should also take the lead in establishing innovative ICT based library services. The government also should take steps to provide free Wi-Fi facilities to all scholars so that they can use their computer without any hassle.

CONCLUSION

We are living in a digital world. ICT plays an important place in our day to day educational world transforming the whole educational system. Without technological knowledge no one can survive in the research field. ICT gadgets have made peoples life simple and informative. ICT have a significant potential in modernization of research in higher education. ICT tools should be implemented in educational institutions and training should be provided to all research scholars to develop their technological knowledge. ICT shows high impact on our educational practices. So it has become a must for all the research scholars and educationalist to have a complete knowledge about the ICT facilities and how to use it in the field of education. Modernization, updating facilities in education, and making capital investment in education will be more fruitful to the scholars who are interested in research work.

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