

## USE OF INTERNET RESOURCES AND SERVICES BY THE RESEARCHER SCHOLARS IN UNIVERSITIES IN KARNATAKA

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### ABSTRACT

*The quality of research is dependent on quality of resources and facilities provided by universities for the promotion of research. The internet facilitates the researchers to access the latest information in their field of knowledge instantly at their figure tips. This paper explores the role of internet in promoting research in university libraries in Karnataka state and its impact on library usage in the present day. This paper also highlights the ICT infrastructure, ICT based resources and services available on the six traditional University Libraries in Karnataka State. The authors made an attempt to reveals the internet use and perceptions of the research scholars in the university libraries in Karnataka state. Further, the study has attempted to identify the gap between internet information needs and delivery of the same.*

**Keywords:** Internet, University Libraries, Information Services, Research Scholars, Information Resources, Internet Tools and Services, Internet based library Services

### 1. INTRODUCTION

Internet has become a global source of information with resources accessible at anytime by anyone from anywhere in the world. The internet represents one of the most successful examples of the benefits of sustained investment and commitment to research and development. It is a mechanism for information dissemination and a medium for collaborative interaction between individuals and computers independent of time and geographical barriers. The internet is an interactive, dynamic, borderless and infinite space for the production and dissemination of information. As the information super highway is in constant transition, the role of the internet on education is in constant transition.

The universities are the centres of higher learning, training and research. Universities play a vital role in generation and dissemination knowledge by providing opportunity to conduct research studies in various fields of knowledge. The internet in universities helps to improve the educational process and to address problems related to weak collaborative partnerships, declining educational standards, rising costs, increasing student numbers and to meet the general increased demand for higher education. Over the past few decades developments in information

technology have brought many changes to university library services and infrastructures in the country.

## **2. OBJECTIVE OF THE STUDY**

The primary objective of the study is to assess the internet by the Research Scholars of University Libraries in Karnataka. The specific objectives of the study are:

- to understand the nature of e-resources, internet facilities, and other services provided by the university libraries in Karnataka;
- to know the pattern of library and Internet usage in the university libraries;
- to assess the research Scholars' perceptions of impact of internet on academic efficiency and library resources and services in university libraries;
- to understand the requirement of internet education and training programmes for effective use of internet resources by research scholars; and
- to suggest measures for the improvement of internet, e-resources and service to meet the academic requirement in university libraries in Karnataka.

## **3. BACKGROUND**

### **Review of Literature**

Efforts were made to use available original articles/abstracts for the review. Besides, other information resources available on the internet have been used as the sources of information for the purpose. Many numbers of studies has been conducted on the Internet facilities, Services, its impact, awareness and usage at universities in developed countries. In Karnataka there are more than 400 university libraries using the internet, but only few universities providing internet based services where the Internet penetration rate is very low. Past research in India and other country has often focused on:

- Internet use among faculty members of universities in Ghana (Adika, 2003)
- Use of the Internet for reference services in Malaysian academic libraries (Abdoulaye and Majid, 2000)
- Internet use by the faculty members of Kuwait University (Al-Ansari, 2006)
- Internet Use at the Balme Library, University of Ghana ( Alemna, and Adanu, 2005)
- Internet awareness and use in the University of Ghana (Badu & Markwei, 2005)
- Use of internet by research scholars at Shivaji University, Kolhapur. (Bansode, & Pujar, 2008)
- Internet use among university students: A survey in University of the Punjab, Lahore. *Pakistan* (Bashir, Mahmood & Shafique, 2008)
- Use of Internet by the Faculty Members of Engineering Colleges of Moradabad : A Comparative Study (Khan and Domini, 2009)
- Faculty Use of Internet Services at a University of Agriculture and Technology (Devendra, 2010)
- Internet Use by Students of the University of Dar es Salaam (Luambano and Julita, 2004)
- Impact of Internet Use on Agricultural Research Outputs in Nigerian Universities of Agriculture (Oduwole, 2004)

- Internet use by health professionals at the Health Sciences Centre of Kuwait University (Rehman and Ramzy, 2003)
- Internet use in university libraries of Pakistan (Saeed, Asghar, Anwar and Ramzan, 1999)
- Adoption of Internet for resource sharing by the Gulf academic libraries (Siddiqui, 2003)
- Internet use by university academics: a bipartite study of information and communication needs (Uddin, 2003)
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#### 4. RESEARCH METHODOLOGY

The present study is mix of both types of researches as it is qualitative based on quantitative data collected from respondents identified for the study. The study is exploratory in nature and as mentioned above and adopted survey research method for conducting the study. The 'questionnaire instrument' has been followed for collection of data from the university libraries in Karnataka. Since the research involved in collection of some technical data, librarians and select users were interviewed for clarification on specific aspects.

**Table 1:** Distribution of Questionnaires and Response Pattern

Sl.No.	Name of the University	Questionnaire Distributed	Responses Received	Percentage
1	Bangalore University	327	209	63.91
2	Gulbarga University	289	221	76.47
3	Karnatak University	319	219	68.65
4	Kuvempu University	102	97	95.09
5	Mangalore University	110	104	94.54
6	University of Mysore	321	227	70.71
Total		1468	1077	73.36

The study considered full time research scholars of the above institutes as customer population. The user population of identified universities are 1468 full time research scholars. In all 1468 printed questionnaires were administered to all the full time research scholars of six respondent universities. Table 1 summarizes the questionnaires distributed and the responses received. The data were analysed both quantitatively and qualitatively. Statistical Package for Social Sciences (SPSS) version 19 was used to analyse quantitative data. Content analysis was used to analyse open-ended questions.

#### PRESENTATION AND DISCUSSION OF FINDINGS

In Karnataka state there are six general universities conducting doctoral degree programmes in different disciplines. The respondents were classified into three broad disciplines such as humanities, social sciences and science based on their subject area of study. The discipline wise distribution is given in Table -2

**Table 2:** Distribution of Discipline among Universities

Name of the University	Disciplines			Total
	Humanities	Social Sciences	Sciences	
Bangalore University	24(20.33)	46(20.18)	139(19.01)	209(19.40)
Gulbarga University	19(16.10)	66(28.95)	136(18.64)	221(20.51)
Karnatak University	33(27.97)	41(17.98)	145(19.83)	219(20.33)
Kuvempu University	14(11.86)	12(05.26)	71(09.71)	97(09.03)
Mangalore University	10(08.48)	27(11.85)	67(09.16)	104(09.65)
University of Mysore	18(15.26)	36(15.78)	173(23.65)	227(21.08)
Total	118(100.00)	228(100.00)	731(100.00)	1077(100.00)

**Note:** The percentage is given in the parentheses

The Table 2 reveals the response received from research scholars among six universities the majority 731 respondents are from science followed by social sciences 228 and 118 humanities disciplines.

The investigator was able to get general (Demographic) information from the respondents being surveyed:

1	Gender wise	Male - 719 (66.80%) Female - 358 (33.20%)
2	Age Group	21-25 - 345 (32.03%) 26-30 - 547 (50.79%) 31-35 - 140 (12.99%) 36-40 - 22 (02.05%) Above 40 - 23 (02.14%)
3	Residential Areas	Rural 330 (30.64%) Urban 747 (69.36%)
4	Stage of Research	Initial Stage 454 (42.15%) Middle Stage 350 (32.49%) Completion Stage 273 (25.36%)
5	Computer Knowledge	Yes - 1038 (96.40%) No - 39 (03.60%)
6	Internet Training	Yes - 177(16.40%) No - 900(83.60%)
7	Operating System	Windows 1063 (98.70%) Linux 95 (8.82%)
8	Connection Type	Free Access 645 (59.89%) Paid Access 432 (40.11%)
9	Problem While Accessing Internet	Yes - 686(63.70%) No - 391(36.30%)

The respondents were asked to indicate whether they use internet for their research study. All the 1077(100.00%) respondents use the internet facilities which is provided in the universities, in order to utilise the internet based information sources and services for their research activities.

The frequency of internet usage was examined, the Daily – 827 (76.79%) and occasionally only 31(02.88%)

Different channels of information are very important to get the required information. The various channels are internet 898 (83.37%), professional colleague and friends 388 (36.02%), university library (587 (54.50%), personal collection 371 (34.44%), teachers and subject experts 376 (34.91%), other library and information centre 339 (31.47%) and conference/workshop/seminars 356 (33.05%).

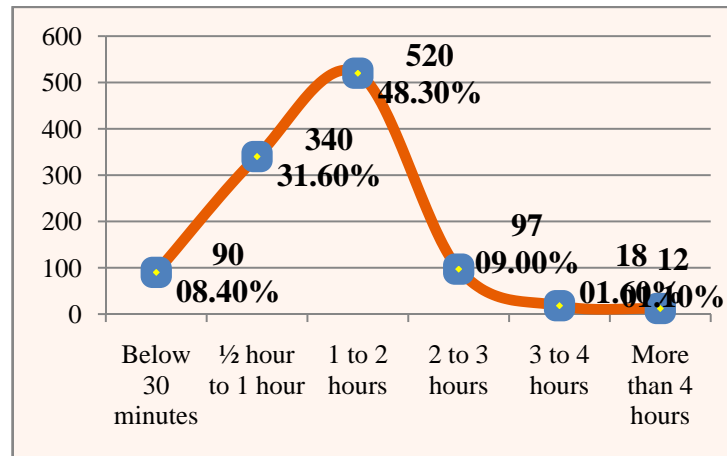


Figure 1: Time Spent on Access to Internet

The time spent plays an important role in research and developmental activities in university environment. More time to access the internet is indication of total exploitation of e-resource. Most respondents spent their time 01 to 02 hours which represents 48.30%. Followed by 31.60% of them who spare 30 minutes to 01 hour, 09.00% of them who spend 02 to 03 hours and 08.40% spent less than 30 minutes per day.

**Internet Facilities:** The good connectivity of internet and networking systems and services provided by universities libraries will indicate the highly cherished research and developmental activities in academic environment.

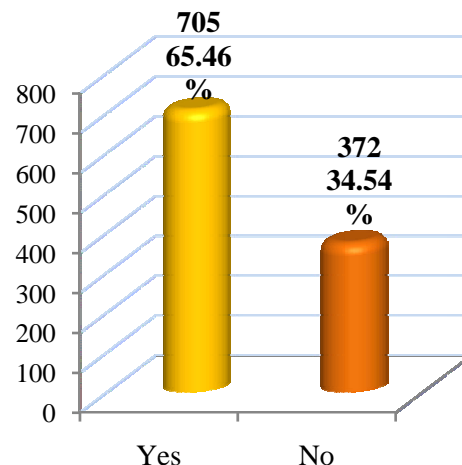


Figure 2: Internet Facilities

The Figure 2 indicates the results from the data received from the respondents with respect to internet availability in the universities. 705 (65.46% of respondents gave their consent of a sufficient internet connection. But, the remaining 372(34.54%) of them remarked that they had insufficient internet connection.

**Internet Tools and Services:** There are plenty of internet tools and services which have been used by users across the globe. In an academic environment particularly in universities, the users depend much on such internet tools and services along with traditional libraries with huge collection. The respondents were requested to rate the features listed in following Table on 5 point scale based on their importance to internet usage. Importance scale the status of usage of internet tools and services by the respondents is presented in Table 3.

**Table 3:** Use of Internet Tools and Services

Sl.No	Internet tools & services	Mean
1	WWW	4.30
2	E-Mail	4.16
3	Search Engines	3.63
4	Websites of organisation	3.51
5	Software	3.41
6	Latest News	3.37
7	File Transfer Protocol	3.29
8	OPAC/Web OPAC	3.24
9	Internet Chatting	3.19
10	FAQ	3.06
11	Telnet/Remote Access	3.05
12	E-Learning	2.99
13	Music - Download	2.91
14	Blogs	2.88
15	Bulletin Board Service	2.87
16	List forum	2.85
17	Internet Talk Radio	2.77
18	Advertisement	2.73
19	E-Commerce	2.70

Note: the mean is computed on 5-point importance scale, where 1- is for least score and 5 for maximum score.

The above Table highlights that the most important features or services that users see in internet services are www(web links), email provisions, powerful search engines, websites of organizations, downloadable software, news flashes, file transfer tools, web-OPACs, chatting, FAQs, and remote access.

**Purpose of Using Internet:** It is widely believed that the so called information age will bring radical change and improvement and the countries all over the world are busy constructing the necessary infrastructure, the 'information superhighways' in order to meet the challenges of the information society of the twenty-first century especially in academic environment. The purpose of using internet by the research scholars from different disciplines is under study. To examine

the purpose of use of the internet by discipline wise data has been sought and presented in Table 4.

**Table 4:** Purpose of Internet Use

Purpose of internet use	Yes	No
To search for relevant information	961(89.20)	116(10.80)
For electronic journals /databases	729(67.70)	348(32.30)
For own publications	680(63.10)	397(36.90)
To know the latest development in research area	677(62.90)	400(37.10)
Communication (e-mail, social network etc.)	645(59.90)	432(40.10)
To know conference, seminars, workshops etc.	618(57.40)	459(42.60)
Discussion with Friends / Colleagues	592(55.00)	485(45.00)
Work Related Activities	554(51.40)	523(48.60)
To know jobs opportunities	536(49.80)	540(50.10)
To access electronic book	473(43.90)	603(56.00)
To read newspapers/magazines	371(34.40)	706(65.60)

**Note:** The percentage is given in the parentheses

The Table 4 shows the purpose of internet use and their preferences while accessing internet. Looking for some relevant information appears to be the most preferred choice followed by accessing e-journals/databases, work for own publications, latest development in their own area, communicating with others, networking and so on in that order. Use of internet for browsing e-books & newspapers appears to be least preferred items while accessing internet.

**E-services:** The access to internet is an important factor by the research scholars in university libraries in order to exploit the available information sources and services under study. It is observed that majority of respondents use the electronic journals 87.00%, 82.90% and 81.00% from science, social sciences and humanities disciplines respectively with mean score 0.76 indicates the maximum usage of e-resource from the three disciplines. Next is the e-mail services with, science 20.80%, social sciences 25.10% and humanities 11.00% respondents with mean score 0.64. However, the respondents are aware of other e-resources available and are using them for their research and academic activities. But, a few of them were using the circulation service with mean score 0.18.

**Users' Perception of Impact of Internet on Academic Efficiency:** Normally academic related activities comprise of activities like reading, writing and communication and professional expertise. The respondents were requested to indicate the features that they feel are impacted by the use of internet. The response was obtained on multiple choice statement and their responses are presented in the Table 5

**Table 5:** Users' Perception of Impact of Internet on Academic Efficiency

Impact of internet	Frequency	Percentage	Ranking
Academic activities	700	64.99	1
Proficiency of reading	667	61.93	2
More time for internet usage	633	58.77	3



Professional competence	525	48.90	4
Number of publication	501	46.50	5
Proficiency of writing	463	43.00	6
Language communication	401	37.20	7
Expediency in result progress	328	30.50	8

Note: responses are as per multiple choice patterns

The Table 5 reveals that:

- a) More than half of respondents do acknowledge that the internet has influenced their overall academic activities (64.99%), nature of reading (61.93%) and they spend more time in use of internet (58.77%).
- b) About half of them (48.9%) do agree that it has influenced their professional competency.
- c) Less than half of them express that it has impacted their writing and publications leaving significant number of respondents not sure of this feature. This could be attributed to the fact that 42.15% and 32.49% of respondents (Table 6.6) are in the initial and middle stages of their research. During this stage the researchers are more focused on exploring the data and information.
- d) The respondents are not very sure about the impact of internet on their communication skills (37.20%) and to what extent it impact on expediting the result of their research (30.50%).

In other words, on one hand, the researchers acknowledged that the internet is impacting their reading, professional efficiency and overall academic activities. On other hand they are not very sure about the nature of impact on their improving their communication skills and speedy outcome of result of their research.

**Users' Preferences Towards Print and Electronic Resources:** The users' preference towards the media of information storage is also indication of impact. Users' preferences on print or electronic resources also indicate their choice of forms of resources. This also indicates the impact of the electronic resources and services in ICT environment. The Table 6.33 shows the respondents' preferred media for information.

The figures presented in Table 6 highlights that more than 2/3<sup>rd</sup> of respondents (68.62%) prefer to use electronic resources as their first choice as compare to print resources. It is also to be noted that significant number of respondents (31.38%) do express their first choice as print resources.



**Table 6:** Form of Print and Electronic Resources

Form of sources	Users preferences			
	Humanities	Social sciences	Sciences	Total
Electronic	37 (31.36)	130 (57.02)	572 (78.25)	739 (68.62)
Print	81 (68.64)	98 (42.98)	159 (21.75)	338 (31.38)
Total	118 (100.00)	228 (100.00)	731 (100.00)	1077 (100.00)

Note: Numbers shown in the parentheses are percentage

Further, cross examination across three disciplines reveals that researchers of science discipline prefer to use more of e-resources as compared to researchers in humanities. This result also throws light on the nature of e-resources available in respondent libraries. It is observed that the UGC-Infonet e-consortia to which, all the respondent libraries are members, includes more e-resources in science disciplines as compare to humanities and social sciences. The lack or non availability of resources also has an impact on their usage. This also signals the need for enriching the e-resource collection in humanities and social science disciplines by UGC-Infonet and respondent libraries.

## FINDINGS

It is observed from data that 69.46% of the respondents' access internet through their respective department in the university followed by access in University library (37.51%), private cyber café (19.60%), hostels/homes (18.95%) and computer/internet centres (18.29%). There is no significant difference in user communities of three disciplines.

It is very interesting to note that almost all researchers in response population (96.40%) are aware of know-how of using computers.

Unlike print materials, use of electronic resources requires some electronic devices like desktops, laptops, mobiles etc. and some skills on using them. It also necessitates users to be aware of some search engines, different formats of information accessible in internet.

The respondents indicate Google as their most favorite search engine followed by Yahoo, Alta Vista and MSN search engines

It is interesting to note that 51% of respondents are utilizing the services of UGC-Infonet provided to them.

It is observed that 65.46% of respondents do express their happiness about the nature of connectivity in their university library and department. The remaining 34.54% have express that the current system is not adequate enough to cater to their needs.

## CONCLUSION

ICT, particularly the internet, is transforming all human activities dependent on Information, including rural development and other areas. Internet is a powerful and economical tool for information resource sharing for the benefit of civil society. The paper highlights that the emergence and advancement of ICT particularly internet is challenging and diminishing the long existing notion of Library unique channel/source of information provision.

A majority of researchers use internet enabled desktops provided in their library and departments. The features such as WWW (web links), email provisions, search engines, websites of organizations, downloadable software, news flashes, file transfer tools, web-OPACs, chatting, FAQs, and remote access have been appreciated by researchers.

Primarily researchers Use internet to 1) search for research related information, 2) e-journals and e-databases, 3) finding literature for self publication, 4) to keep abreast of current trends in the field, 5) communicating with friends and experts, 6) to know about seminars/conferences in their field. Reading of e-books, advertisements, career opportunities, newspapers are not in their priority. It is observed about half of the respondents are aware of the features and they are using it too. The unawareness the service by other half clearly signals the gray areas to be considered by university administration on top priority.

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