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# Usage of ICT Products And Services By The Research Scholars: A Case Study Of Maharshi Dayanand University, Rohtak

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***Abstract:*** **ICT plays a very dynamic role in the field of research because of their eminent qualities like easy to access, download, current information access, or retrospective in nature, easily transfer of information etc. This research paper is an attempt to focuses on the use of ICT products and services by the research scholars. A survey was conducted in the academic year 2016-17 at Maharshi Dayanand University (MDU). It is based on the survey of 69 research scholars. The study put light on the overall proficiency in managing various e-resources and stresses its impact on research work. Further, the study identifies drawbacks due to lack of training and technical knowledge to use of ICT as major hindrances faced by the research scholars in MDU.**

***Keywords:*** **ICT products, ICT services, Internet, Electronic Resources, Research scholars, MDU**

## I. INTRODUCTION

Information and Communication Technology(ICT) is a wide-ranging and equivalent concept with Information Technology (IT), that denotes not only a single unit of technology but an assemble of technologies like telecommunication equipments, data processing equipments, semiconductors, consumer electronics etc. The accelerated implementation and make use of Information and Communication Technology (ICT) has resulted in the globalization of information and knowledge resources. According to Kemp" Information is considered as the fifth need of man ranking after air, water, food, and shelter".

ICT proved as blessings for the profession of librarianship. Application of ICT to Library and Information work has revolutionized the conventional concept of libraries from 'store house of books to an intellectual information centre' by handling, processing, managing and retrieving the information in convenient manner. ICT, computers, and internet are now being used for day-to-day library housekeeping activities, which saves the time of both library professionals and end users. It also help in avoiding duplication of work and make the library activities and services smooth and effective.

Research scholars have understood the advantages of ICT products and services for research ideas and sources. Recognizing the advantages of ICT, libraries are playing a very significant role in facilitating access to global information and knowledge resources crossing the geographical limitations. The present research paper attempts to find out the use of ICT products and service in MDU, Rohtak.

## II. MAHARSHI DAYANAND UNIVERSITY

Maharshi Dayanand University, *ab initio* established as Rohtak University, Rohtak, came into existence by an Act No. 25 of 1975 of the Haryana Legislative Assembly in 1976 with the objective to promote inter-disciplinary higher education and research in the fields of environmental, ecological and life sciences. It was rechristened as Maharshi Dayanand University in 1977 after the name of a great visionary and social reformer, Maharshi Dayanand. The University is located at Rohtak in the state of Haryana. The University campus, spread over an area of over 665.44 acres, is well laid with state-of-the-art buildings and magnificent road network, and presents a spectacle of harmony in architecture and natural beauty.

## III. UNIVERSITY LIBRARY

The University Library System comprises a central library named as Vivekananda Library and a host of satellite libraries - Management Library, Law Library, Engineering Library, Maths Library, Hotel Management Library, and Departmental Libraries in the Departments of Sociology and History. The Vivekananda Library is so strategically located that it is just five minutes' walk from the departments and the hostels. It is housed in a magnificent three storied building with 84000 sq. ft. area and a seating capacity of 800. It opens from 9.00 a.m. to 8.00 p.m. on six days of the week, and from 9.00 a.m. to 5.00 p.m. on Sundays and holidays. One of its Reading Halls with

 

seating capacity of about 250 keeps open round the clock throughout the year. The Hall is air-conditioned. The reading chairs meet all levels of comfort and modernism. All the functions of the library – check-out check-in, catalogue, serials system, and acquisition system - are automated. Information Kiosks are in place for accessing the online catalogue and other databases of the library. The Internet lab of the Library has been designed elegantly – it is air-conditioned, and has a bandwidth connectivity of 1 Gbps, 60 latest PCs, beautiful furniture, etc. The multimedia library has 20 latest PCs and headphones each, and provides facilities for development of communication skills and watching audio/video CDs in a variety of subjects. Its one-to-one videoconferencing facility is wrapped around state-of-the-art equipment and technology. The Library has a rich collection of knowledge resources - over 2,50,000 volumes of books and 50,000 bound volumes of journals, and subscribes to 540 Indian and foreign journals in print form. Online access is provided to 5300 e-Journals through UGC Infonet facility, over 200 e-Open Access Journals, SCOPUS- an Elsevier owned database of abstracts from about 18,000 science and social journals, e-Emeralds Plus- a full text database of management journals published by Emerald Group, and Manupatra- a full text law database. The University invests over Rs. 200 lakhs annually on the enrichment of its knowledge base, besides having substantial recurring and non-recurring budget for other library activities including upgradation of existing facilities. The Library also maintains Campus-wide Network, IP-based Telephony system and University's website.

## IV. REVIEW OF LITERATURE

The developments in the field of digital technology have brought drastic changes in the information processing, storage and retrieval techniques, especially in higher education system, including research activities

**Ellis and Oldman** (2005) noted that ―through the use of electronic resources, researchers and students; now have access to global information resources, particularly the Internet for their scholarly communication.

**Dadzie** (2005) found that the use of computer for searching information was high. The usage
of some Internet resources was also found to be very high, while the use of scholarly database resources was quite low due to inadequate information about the existence of these library resources.

**Raza and, M-Masoom and Upadhay** (2006) carried out a survey at Aligarh Muslim University to study the usage of e-journals by researchers. They found that many research scholars are consulting ejournals from their departmental labs and computer centres use e-journals not only for research purposes but also to update their own knowledge.

**Kaanungo, Neena Talwar** (2007) study reveals that, ―the 91% of the social scientists find internet as an important tool of research. Internet as a medium offers rich possibilities to enhance serious research and teaching by diverse sociologists. Internet has indeed become a communication medium for enhancing teaching, research and professional development for social scientist in the open distances heaving environment.

**Madhusudhan**( 2007) states that it makes it possible to access a wide range of information, such as up-to-date research reports, from anywhere in the world. It also enables scholars and academic institutions to disseminate information to a wider audience around the globe through having web sites and a way to search them and organize the output.

**Madhusudhan** (2008) focuses on the use of UGC-Infonet e-journals by research scholars and students with the core aim to identify their ever increasing needs and requirements.

**Khan and Ahmad** (2009) jointly had undertaken a study in order to find out the level of awareness and use of e-journals by the researchers at AMU and BHU in India, where the survey revealed that most of the research scholars are quite aware of the availability of e-journals and largely use them for reference purposes in their research and also have agreed that the usage of e-journals substantially improves the quality of their research work due to enrich contents and materials of appurtenance leading to high-quality manuscripts.

**Haridasan and Khan** (2009) focusing on the impact and use of e-resources by social scientists pursuing research in NASSDOC library indicate that, a large number of users are aware enough and involved widely in the use of eresources for their research work. NASSDOC library is quite rich in e-resources and able to satisfy its majority of users, the study observed.

**Raza & Upashyay (2010)** examined the usage to e-journals by researchers at DU and AMU that most of the researchers are aware of e-journals and most of the researchers use them for their research purpose. Most of the researchers fully agree that with the usage of e-journal the quality of research work improves. Most of the researchers access e-journals in computer centre. It is found that lack of training is the obstacle in proper and full utilization of e-journals.

Mann (2012) conducted a study to analyze the use of ICT products and services by the students and staff of Adesh Institute of Engineering & Technology, Faridkot (Punjab). The study revealed that about 91% of the respondents used smart card for their library services. The study also revealed that the majority of the respondent's i.e.61.4% used ICT products and services for access to e-journals. In comparison to teachers, more students used ICT products and services for access to e-journals.

## V. OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

 

1. To find out the awareness and utilization of various ICT products.
2. To find out the purpose of using ICT products and services.
3. To find out the frequency of use of ICT products and services.
4. To know the preferred search engine used by research scholars.
5. To determine the level of proficiency of the research scholars regarding the use of ICT products and services.
6. To determine the significance of ICT products and services in research work
7. To identify the problems faced by the research scholars while using ICT products and services.
8. To provide suggestions and conclusion based on the present study.

## VI. METHODOLOGY

To conduct the research work, survey method and questionnaire tool for data collection were used. A well structured questionnaire with multiple options was prepared for the research scholars based on the mentioned objectives of the study. The questionnaire consists of 15 questions including one column for comments and recommendations on the use of ICT products and services by the research scholars. 120 questionnaires were personally distributed among the randomly selected research scholars at the university campus, out of which 79 were received back duly filled in and the same used for analysis.

## VII. SCOPE AND LIMITATIONS OF THE STUDY

The scope of the present study is to examine the utilization of ICT knowledge, skills and services for research purpose. The study is confined to only research scholars at Maharshi Dayanand University, Rohtak.

## VIII. ANALYSIS AND INTERPRETATION

In the light of the objectives of the present research work, the collected data is checked and analyzed with the help of statistical methods using simple percentage approach and presented in the following tables:

**Use of ICT products**

Table 1: Use of ICT products

| ICT Products | No of Responses | Percentage |
|---|---|---|
| Computer | 70 | 88.61% |
| Laptop | 64 | 81.01% |
| Smart Phone | 58 | 73.42% |
| Ipad | 29 | 36.71% |
| Tab | 31 | 39.24% |
| Printer | 43 | 54.43% |
| Scanner | 21 | 26.58% |
| CD/DVD/Pen Drive | 63 | 79.75% |

Table 1 depicts the use of ICT tools for information search by the research scholars. The result shows that all the respondents use Computer (88.61%) followed by the use of Laptop (81.01%), CD/DVD/Pen Drive (79.75%), Smart phone (73.42%), Tab (39.24%), Ipad (36.71%), Printer (54.43%) and Scanner (26.58%).

**Use of ICT application software/ hardware**

Table 2: Use of ICT application

| ICT Applications | Number of Responses | Percentage |
|---|---|---|
| Internet | 79 | 100.00% |
| MS Word | 79 | 100.00% |
| MS Power Point | 58 | 73.42% |
| MS Excel | 60 | 75.95 % |
| Statistical Analysis Software | 68 | 86.1% |
| Others | 51 | 64.56% |

Table 2 shows that all the respondents maximum use Internet and MS Word (100%), followed by Statistical Analysis Software(86.1%), MS Excel (75.95%) and MS Power Point (73.42%) and others (64.56%).

**Purpose of using ICT Products and Services**

Table 3: Purpose of using ICT Products and Services

Table 3 indicates that 91.14% of the respondents use ICT Products and Services for the purpose of e-mail and document exchange, whereas 89.87% use to update their knowledge and 87.34% use to locate and collect data and for casual surfing using Internet, 86.08% for E-Journals, 79.75% for Search web OPAC/OPAC, 70.89% for Online databases, 65.82% for E-books and less than 50% of the respondents use the ICT products and services for blogging, preparing manuscripts, proposals, papers and discussion forums.

**Frequency of use of Computer and Internet**

Table 4: Frequency of use of Computer and Internet

| Use of Computer and Internet | Number of Responses | Percentage |
|---|---|---|

 

| Purpose | Number of Responses | Percentage |
|---|---|---|
| E-mail | 72 | 91.14% |
| E-journal | 68 | 86.08% |
| E-books | 52 | 65.82% |
| Online databases | 56 | 70.89% |
| Locate and collect date using Internet | 69 | 87.34% |
| For career development | 49 | 62.03% |
| To update knowledge | 71 | 89.87% |
| Search web OPAC/OPAC | 63 | 79.75% |
| Preparing manuscipts, proposals, papers | 29 | 36.71% |
| Preparing presentation | 33 | 41.77% |
| Blogging | 29 | 36.71% |
| Casual Internet surfing | 69 | 87.34% |
| Discussion forums | 27 | 34.18% |
| Daily | 22 | 27.85% |
| 2-3 times a week | 29 | 36.71% |
| Once a week | 13 | 16.46% |
| 2-3 times a month | 12 | 15.19% |
| Occasionally | 3 | 3.79% |
| Total | 79 | 100% |

Table 4 shows that 36.71% of the respondents use Computer and Internet 2-3 times a week, 27.85% daily, 16.46% once a week and 15.19% 2-3 times a month. Only 3.79% of the respondents use Computer and Internet occasionally.

**Place of use of Internet**

Table 5: Place of use of Internet

Table 5 shows that 81.01% of the research scholars access Internet at library, 74.68% at computer centre, 46.84% at department, 27.85% at home or hostel and only 7.59% at cyber café. It is clear from the study that the majority of the respondents prefer to visit library for Internet access.

Preferred Search Engines

Table 6: Preferred Search Engines

| Search engines preference | Number of Responses | Percentage |
|---|---|---|
| Google | 79 | 100.00% |
| Yahoo | 67 | 84.81% |
| Rediff | 23 | 29.11% |
| Refseek | 35 | 44.30% |
| iSeek Education | 19 | 24.05% |
| Others | 7 | 8.86% |

Table 6 shows that all research scholars use Google search engine to locate topical information. Besides, 84.81% of the research scholars use Yahoo, 44.30% use Refseek, 29.11% use Rediff, 24.05% use iSeek Education. Only 8.86% of the research scholars use other search engines for their research work.

**Expertise in using ICTs**

Table 7: Expertise in using ICTs

| Extent of expertise | Number of Responses | Percentage |
|---|---|---|
| Very expert | 37 | 46.84% |
| Expert | 58 | 73.42% |
| Average user | 73 | 92.41% |
| Poor | 11 | 13.92% |
| Very poor | 0 | 0.00% |

Table 7 depicts the expertise level of using ICT tools and shows that only 46.84% of the research scholars are very expert in using ICTs and 73.42% are expert users of ICTs, 92.41% of the research scholars are average users of ICTs.

**Learned to use ICTs**

Table 8: Learned to use ICTs

| Place of Use | Number of Responses | Percentage |
|---|---|---|
| At library | 64 | 81.01% |
| At computer centre | 59 | 74.68% |
| At department | 37 | 46.84% |
| At cyber café | 6 | 7.59% |
| At home/ hostel | 22 | 27.85% |

 

| Problems faced | Number of Responses | Percentage |
|---|---|---|
| Limited number of computers | 23 | 29.11% |
| | | |
| Lack of software | 25 | 31.65% |
| Lack of training | 31 | 39.24% |
| Lack of awareness of ICTs | 19 | 24.05% |
| Lack of time | 29 | 36.71% |
| Lack of technical knowledge | 35 | 44.30% |

Table 8 indicates that 84.81% of the respondents learn to use ICTs by guidance from colleagues, 74.68% by guidance from library staff and 51.90% by trial. Only 48.10% of the respondents have formal training to use ICTs for research work.

**Problems faced while using ICTs**

Table 9: Problems faced while using ICTs

Table 9 indicates that major problems faced by the respondents are lack of technical knowledge (44.30%), lack of training (39.24%), lack of time (36.71%), lack of software (31.65%), limited number of computers (29.11%) and lack of awareness of ICTs (24.05%).

| Learnt to use ICTs | Number of Responses | Percentage |
|---|---|---|
| Trial | 41 | 51.90% |
| Guidance from library staff | 59 | 74.68% |
| Guidance from colleagues | 67 | 84.81% |
| Formal training | 38 | 48.10% |

**Impact of ICTs on Research Work**

Table 10 indicates the impact of ICTs on research work and academic efficiency of the research scholars. A majority of the respondents (89.87%) indicates that ICTs have enhanced the access of current information, followed by access to wider range of information (87.34%), fast access to information (82.28%) and improve professional competence (72.15%). Only 51.90% of the research scholars agree with the fact that ICTs help to expedite research progress.

Table 10: Impact of ICTs on Research Work

**Findings**

The following observations are made:

- All the respondents uses Computer, laptops and CD/DVD/Pen Drive as major ICTs Products for research work.
- All the research scholars use Internet followed by Statistical Analysis Software, MS Word and MS Excel as application software for research work.
- More than 80% of the research scholars use ICT Products and Services for the purpose of e-mail and document exchange, use to update their knowledge, use to locate and collect data and for casual surfing using Internet and for E-Journals
- A majority of the respondents 81.01% prefer to visit library for Internet access.
- Only 46.84% are very expert users of the ICTs.
- The major problems faces by the respondents are lack of technical knowledge (44.30%) and lack of training (39.24%).
- More than 90% of the research scholars indicate that ICTs have enhance the access to current information.

**Recommendations**

On the basis of the finding s of the research study, the following recommendations are made to provide better services to the users:

- There should be proper technical knowledge and training to get maximum utilization of ICT products and services to carry out research activities.
- Workshops or training programmes should be organized at regular interval to educate the users so that they can get maximum benefits of the library resources.
- There should be well qualified and trained ICT staff in the library to give quick access to research scholars.
- There should be proper instruction guide for easy access of information.

| Impact of ICTs | Number of Responses | Total no. of Questionnaire distributed | Percentage |
|---|---|---|---|
| Expedite research progress | 41 | 79 | 51.90% |
| Improve professional competence | 57 | 79 | 72.15% |
| Access to current information | 73 | 79 | 92.41% |
| Access to wider range of information | 69 | 79 | 87.34% |
| Fast access of information | 65 | 79 | 82.28% |

## IX. Conclusion

The implementations of ICT products and services not only brought technological advancement but also have a great

 

impact on research activities and have improved the quality of research. The study explores the use of ICTs by the research scholars of Maharshhi Dayanand University, Rohtak.

The study reveals that the respondents use a variety of ICT products and services to undertake their research activities. They feel that ICT is very helpful for easy access and delivery of information and it also enabled for rapid communication. The study shows that all the research scholars use 100% Internet and MS Word whereas 91.14% use e-mail for their research work. The study also indicate that the major problems faced by the research scholars are lack of technical knowledge (44.30%) and lack of training (39.24%). Therefore, it is recommended that the library should arrange and organize training programme related to the use of ICT products and services.

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