

Utilization of ICT-based Library Resources and Services by Research Scholars of JNU, New Delhi: A Study

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ABSTRACT

This paper examines the utilization of ICT-based library materials and offered services across research scholars of JNU, New Delhi. A survey method was used for the collection of the data using an organized questionnaire tool with a sample of 350 and collected primary data from the Ph.D. research scholars from the School of Humanities (languages), Social Sciences, and Science of Jawaharlal Nehru University, Delhi. the author has received 217 filled questionnaires from the respondents and the study reveals that 93.09% of them visit the library for data collection for their Academic / Research work, 93.08% of them frequently use journal articles for research purposes, 88.02% of them are conscious and utilize of online periodicals for academic/research purpose, 70.05% of them are used plagiarism checking services for academic/research purpose, and 88.02% of them are using title search for information retrieving from ICT based library resources.

KEYWORDS: Utilization, ICT, Library Resources, Services, Research Scholars, JNU, New Delhi.

INTRODUCTION

Evolution is a continuous process in any branch of knowledge. Most often the changes take place in the branches of knowledge due to updating of information, improvement of new skills with new ideas in education and practical and theatrical improvement in the disciplines of study. The invention of computers and their application in every branch of academics brought tremendous changes. They increased the fastness and adaptation of new skills, explosion of information, sharing of knowledge, communicating the data and transferring practical and experimental ideas and led to the changes in education and human development. This development occurs due to the application of various services and added resources and products to the users in academics by the libraries. the role of a library is vital and endless efforts should be made to serve the academic community with an adaptation of ICT applications. Electronic Resources are necessary and alternative to print information of e-books, e- Journals, e-newspapers, e-theses and dissertations (ETD), and e-databases. The era of ICT applications helps the library to utilize and assist with research

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projects as well as teaching and learning activities with the support of the Internet, Wi-Fi technology, Radio Frequency Identification (RFID) and E-resources with other Library networks and sharing, Web OPACs, etc. The present paper incorporates the information technology-based best practices, and traditional best practices such as web pages, institutional repositories, email alerting services, and extension services of the academic libraries with special reference to Dr. B.R. Ambedkar Central Library, JNU. New Delhi.

Jawaharlal Nehru University is considered as one of the top universities in India due to its academic and social achievements. Many of the alumni of the University played a key role in the societal, political and economic development of the country. [1] Being located in the national capital region of the country, The Jawaharlal Nehru the university attracts students from various parts of the country representing all most all the states in India.

The Dr. B R Ambedkar Central Library (JNU) facilitates immense services to the research scholars for their research with various ICT-based e-resources and services like online databases, remote access, online catalogs, assistive technologies, cyber library, wifi, Plagiarism, digital reading list, institutional repositories, Press clippings, RFID, Interlibrary loan, etc. The paper aims to examine the utilization of e-resources among the resources in JNU, New Delhi and attitude towards the e-resources and services

REVIEW OF LITERATURE

According to **Bayode (1996)**¹ Information Communication Technology (ICT) is defined as the acquiring, processing, dissemination and storage of information with the support of computers and other telecommunication machines. Some libraries suffer insufficient funds and disturbances in electricity supply in the university libraries **Ani. et al. (2005)**². A large no. of library community discontented about the deficient ICT infrastructure **Haneefa (2007)**³. Storing all the existing knowledge in digital forms, especially in e-books will help a lot in academic libraries **Tholkappian and Chandran (2007)**⁴. Concentrating on the influence of the internet on research for research purposes has greatly influenced **Khan and Rao(2008)**⁵. **Onwudinjo et al (2015)**⁶ recommended that the libraries must well equipped with current and appropriate resources to the scholars. In a study conducted by **Ani et al.(2016)**, ⁷ revealed that university libraries should educate research students on the use of ICT-based library resources. E- Information resources were important for empowering the respondents **Akpojotor (2016)**⁸. Users were always unaware and frequently demanded to organize orientation programmes **Maan (2018)**⁹ for the enhancement of library e-sources and services **Reddy and Reddy (2019)**¹⁰. The library also need to conduct user education programs for research guides to the scholars **Nair and Nanda (2020)**¹¹ and bring awareness on subject knowledge **Dwivedi and Verma (2022)**¹² to the users. There is a need for library staff, sufficient print and e-collection, and adequate infrastructure in academic libraries **Hoque (2023)**¹³. The present study strives to assess and analyze the availability of ICT-based resources and services at one of India's most prestigious university and the level of awareness among the research scholars about the ICT resources and services.

METHODOLOGY

A survey approach was used in this study for the collection of the data using a structured questionnaire tool and collected primary data from the research scholars of Jawaharlal Nehru University, Delhi. A total number of 350 questionnaires were dispensed to the Ph.D scholars in the Schools of humanities (languages), Social Sciences, International Studies and Sciences Schools. Out of 350 questionnaires, the author has received 217 filled questionnaires from the respondents. The sample represents 62% of the feedback received out of 350 distributed

questionnaires. The data collected in the form of questionnaires were analyzed by using MS Excel for primary data entry and the SPSS program for generating tables and graphs by following percentages for representing the following key observation of the study.

OBJECTIVES OF THE STUDY

- ✓ To discover the purpose of visiting the library by the research scholars of JNU, New Delhi;
- ✓ To appraise the use of print resources by the research scholars;
- ✓ To identify the magnitude of awareness and use of ICT-based electronic resources for academic purposes;
- ✓ To perceive the regularity and purpose of using ICT-based library services by the research scholars;
- ✓ To examine the various search strategies used by the research scholars; and
- ✓ To know the awareness among the research scholars on the availability of ICT-based services and resources and their usage.

METHODOLOGY AND SCOPE OF THE STUDY

The following methodology is used in the study a survey method is applied by using a questionnaire tool for the collection of primary data. The secondary data was collected from the university website and university hand. There are twenty-two schools are in Jawaharlal Nehru University, New Delhi. 350 questionnaires were dispensed to the research scholars of different schools of Jawaharlal Nehru University by using an accidental sampling method However the researcher received 217 usable questionnaires which are 62% of the respondents out of the total respondents. The questionnaire contains questions related to the purpose of library visits, awareness and use of e-resources, awareness of search techniques, etc. After collecting the data, the data were examined and inferred in the form of tables and graphs. The study is confined to the research scholars, the faculty members and students are excluded from the study.

ANALYSIS OF DATA

(i) Category wise respondents of the users

Table: 1 Category wise respondents of the users

Category	No. of Respondents			Total (N=217) (%)
	SLL&CS	Social Sciences	Sciences	
Male	43 (68.25)	56 (60.21)	33 (54.09)	132 (60.83)
Female	20 (31.74)	37 (39.78)	28 (45.90)	85 (39.17)
Total	63 (100)	93 (100)	61 (100)	217 (100)

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Table-1 provides the details of the respondents and the above table shows that more than 60% of the patrons belong to the male category remaining of them (39.17%) are female category and also shows that more number of female respondents(45.90%)belong to the science disciplines and (68.25%) of male respondents belong to SLL and CS schools.

(ii) Purpose of visit to library

The response of the research scholars on the purpose and reasons for their visit to the library and for accessing its services and resources are given in the following table-2.

Table : 2 Purpose of visit to library

Purpose of Visiting the Library	Response's	
	No.	%
Academic / Research work	202	93.09
To Study Course Materials	125	57.60
Data collection for my research	117	53.92
To read Magazines /Journal articles	114	52.53
Consulting for reference	88	40.55
Updating in current subject information	80	36.87
Browsing/ Surfing for e-content	72	33.18
Recreational reading	53	24.42
Preparing for Competitive exams	49	22.58
Using social media tools	35	16.13
Checking mails	33	15.21

It is clear from table 2 that most of the research scholars (93%) visits to library for academic and research followed by data collection(53.92%) periodicals(52.3%) reference service (40%) subject updating (36%) etc. It is concluded that the majority of the research scholars visit library for the research work purposes.

(iii) Frequently use of print resources

Table: 3 Frequency use of print resources for research purpose

Print resources	Discipline			Total (N=217)
	SLL&CS	Social Sciences	Sciences	
Journal articles	53 (26.23)	90 (44.55)	59 (29.20)	202 (93.08)
Books	60 (30.45)	88 (44.67)	49 (24.87)	197 (90.78)
Theses & Dissertations	43 (27.04)	73 (45.91)	43 (27.04)	159 (73.27)

Reference Books	43 (29.25)	69 (46.94)	35 (23.81)	147 (67.74)
Seminar papers	39 (33.91)	55 (47.83)	21 (18.26)	115 (52.99)
Government reports	22 (19.64)	70 (62.50)	20 (17.86)	112 (51.66)
Working papers	20 (20.41)	58 (59.18)	20(20.41)	98 (45.16)
Project reports	14 (20.59)	33 (48.53)	21 (30.88)	68 (31.33)
Maps	15 (25.00)	32 (53.33)	13 (21.67)	60 (27.64)
Standards	7 (26.92)	11 (42.31)	8 (30.77)	26 (11.98)
Patents	6 (25.00)	8 (33.33)	10 (41.67)	24 (11.05)

Table.3 reveals that most of the respondents (93.08%) are frequently used journal articles for research followed by books (90.78), theses/dissertations (73.27%), reference books (67.74%), seminar papers (52.99%), government reports (51.66%), working papers (45.16%), project reports (31.33%), maps (27.64%), standards (11.98%)and remaining of them (11.05%) of the research scholars frequently used patents for research purposes.

(iv) Awareness and use of ICT based Electronic Resources

Table: 4 Aware and use of ICT based electronic resources for academic/research purpose

ICT based E-Resources	Discipline			Total (N=217)
	SLL&CS	Social Sciences	Sciences	
E-Journals	49 (25.65)	90 (47.12)	52 (27.23)	191 (88.02)
E-books	56 (29.47)	85 (44.74)	49 (25.79)	190 (87.56)
Open access journals	34 (22.37)	77 (50.66)	41 (26.97)	152 (70.05)
Open access e- Books	39 (26.53)	67 (45.58)	41 (27.89)	147 (67.74)
e-News papers	36 (25.90)	70 (50.36)	33 (23.74)	139 (64.06)
Online databases (Full text)	33 (25.00)	58 (43.94)	41 (31.06)	132 (60.83)

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E- reference sources	35 (27.78)	58 (46.03)	33 (26.19)	126 (58.06)
Bibliographic Databases	36 (30.51)	49 (41.53)	33 (27.97)	118 (54.38)
e-magazines	33 (28.70)	54 (46.96)	28 (24.35)	115 (53.00)
Open E-Theses/ ETD/ Digital archives	29 (26.85)	50 (46.30)	29 (26.85)	108 (49.77)
Open online videos	33 (31.13)	40 (37.74)	33 (31.13)	106 (48.85)
E- Research Reports	27 (25.47)	50 (47.17)	29 (27.36)	106 (48.85)
Open Educational Resources	27 (27.27)	44 (44.44)	28 (28.28)	99 (45.62)
e-dictionaries	30 (32.97)	40 (43.96)	21 (23.08)	91 (41.94)
E-encyclopedias	28 (31.46)	36 (40.45)	25 (28.09)	89 (41.01)
Online Notes/ lab manuals	20 (28.57)	22 (31.43)	28 (40.00)	70 (32.26)
Open access audio e books	16 (32.00)	18 (36.00)	16 (32.00)	50 (23.04)
CD-ROM's/ DVD's	11 (35.48)	13 (41.94)	7 (22.58)	31 (14.29)

Table 4 describes that the majority of the research scholars (88.02%) are aware and use e-journals for academic/research purposes followed by e-books (87.56%), open access journals (70.05%), open access e-books (67.74%), e-newspapers (64.06%), online databases (Full text) (60.83%), e-reference sources (58.06), bibliographic databases (54.38%), e-magazines (53.00%), open e-theses/ETD/digital archives (49.77%), open online videos and e-research reports (48.55%), open educational resources (45.62%), e-dictionaries (41.94%), e-encyclopedias (41.01%), online notes/lab manuals (32.26%), open-access audio e-books (23.04%) and the remaining of them (14.29%) are aware and use of CD-ROMs/DVDs for academic/research purposes.

(v) Use of ICT based Services

Table: 5 Use of ICT based services for academic/research purpose

ICT based Services	Discipline			Total (N=217)
	SLL&CS	Social Sciences	Sciences	

Plagiarism checking services	41 (26.97)	66 (43.42)	45 (29.61)	152 (70.05)
Digital Library services	39 (30.71)	53 (41.73)	35 (27.56)	127 (58.53)
Remote access services	30 (27.27)	49 (44.55)	31 (28.18)	110 (50.69)
E mail/ mobile alerts	33 (32.04)	41 (39.81)	29 (28.16)	103 (47.47)
Newspaper clipping services	28 (30.77)	43 (47.25)	20 (21.98)	91 (41.94)
Delnet / Inter Loan library	24 (26.97)	47 (52.81)	18 (20.22)	89 (41.01)
OPAC	26 (29.89)	40 (45.98)	21 (24.14)	87 (40.09)
New Arrivals display service (New Additions list)	26 (30.95)	39 (46.43)	19 (22.62)	84 (38.71)
Information desk/Reference/ Referral service	25 (29.76)	39 (46.43)	20 (23.81)	84 (38.71)
Reprography / printing	29 (37.18)	32 (41.03)	17 (21.79)	78 (35.94)
Circulation/ e reservation	26 (33.77)	33 (42.86)	18 (23.38)	77 (35.48)
Notice board (e-Notice board)	19 (25.00)	35 (46.05)	22 (28.95)	76 (35.02)
Institutional repository services	23 (31.51)	31 (42.47)	19 (26.03)	73 (33.64)
Discovery service	24 (37.50)	22 (34.38)	18 (28.13)	64 (29.49)
Other Library portals/ subject WebPages/ search engine links	25 (44.64)	18 (32.14)	13 (23.21)	56 (25.81)
Subject Guides	16 (30.19)	19 (35.85)	18 (33.96)	53 (24.42)
Translation service	19 (41.30)	15 (32.61)	12 (26.09)	46 (21.20)
Alert services	12 (34.29)	9 (25.71)	14 (40.00)	35 (16.13)
Indexing/Abstracting/ Documentation service	11 (32.35)	12 (35.29)	11 (32.35)	34 (15.67)

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User meets / Career guidance	10 (31.25)	14 (43.75)	8 (25.00)	32 (14.75)
CAS/SDI services	8 (26.67)	11 (36.67)	11 (36.67)	30 (13.82)

Table 5 depicts that the majority of the research scholars (70.05%) use plagiarism-checking services for academic/research purposes followed by digital library services (58.53%), remote access services (50.69%), E-mail/mobile alerts (47.47%), newspaper clipping services (41.94%), Delnet/Interlibrary loan (41.01%), OPAC (40.09%), New arrivals display service (New additions list) (38.71%), Information desk/Reference/Referral service (38.71%), Reprography/printing (35.94%), circulation/e-reservation (35.48%), notice board (e-notice board) (35.02%), institutional repository services (33.64%), discovery service (29.49%), other library portals/subject web pages/search engine links (25.81%), subject guides (24.42%), translation service (21.20%), alert services (16.13%), indexing/abstracting/documentation service (15.67%), user meets/career guidance (14.75%) and the remaining of them (13.82%) of the research scholars are used CAS/SDI services for academic/research purposes. It is concluded that majority of the research scholars use plagiarism checking services than other services.

(vi) Type of search techniques used

Table: 6 Type of search techniques used for information retrieving

search techniques	Respondents	
	No.	%
Title Search	191	(88.02)
Simple search	186	(85.71)
Keyword Search	174	(80.18)
Author Search	160	(73.73)
Google Search	160	(73.73)
Subject Search	146	(67.28)
Advance search	143	(65.90)
Keyword/ Faceted	132	(60.83)
Publishers search	113	(52.07)
Phrase search	91	(41.94)
Synonym search	74	(34.10)
Domain search	59	(27.19)
Restricted search	43	(19.82)
Parentheses search	37	(17.05)
Federated search	26	(11.98)
Limitation search	19	(8.76)
Proximity Search	16	(7.37)
Truncation search	13	(5.99)
Wild card	11	(5.07)

Table-6 obvious that majority of the research scholars (88.02%) ripostes that they use title search for information retrieving from ICT-based library resources followed by Simple search (85.71%), Keyword search (80.18%), Author search (73.73%), Google search (73.73%), Subject search (67.28%), Advanced search (65.90%), Keyword/Faceted (60.83%), Publishers search (52.07%), Phrase search (41.94%), Synonym search (34.10%), Domain search (27.19%), Restricted search (19.82%) Parentheses search (17.05%), Federated search (11.98%), Limitation search (8.76%), Proximity search (7.37%), Truncation search (5.99%) and Wild card search (5.07%). The survey reveals that the majority of the research scholars use traditional search methods by using title, author, or subject as the main search phrase and very few of the research scholars use advanced search techniques and filters. This suggests that there is for conducting proper orientation programs for the users on the use of library catalogues.

FINDINGS OF THE STUDY

1. The majority of the research scholars (60.83%) belongs to the category of that Male and the remaining (39.17%) are Female.
2. Most of the scholars (93.09%) visit the library for Academic / Research work purposes and study course materials (57.60%).
3. The bulk of the scholars (93.08%) use journal articles for research purposes frequently followed by books (90.78), theses/dissertations (73.27%), reference books (67.74%), and seminar papers (52.99%).
4. The lion's share of the research scholars (88.02%) are aware and use e-journals for academic/research purposes followed by e-books (87.56%), open access journals (70.05%), open access e-books (67.74%), e-newspapers (64.06%), online databases (Full text) (60.83%), e-reference sources (58.06), bibliographic databases (54.38%), e-magazines (53.00%), and open e-theses/ETD/digital archives (49.77%).
5. The majority of the research scholars (70.05%) use plagiarism-checking services for academic/research purposes followed by digital library services (58.53%), remote access services (50.69%), E-mail/mobile alerts (47.47%), newspaper clipping services (41.94%), Delnet/Interlibrary loan (41.01%), and OPAC (40.09%).
6. The majority of the research scholars (88.02%) rejoinder that they prefer title search for information retrieved from ICT-based library resources followed by Simple search (85.71%), Keyword search (80.18%), Author search (73.73%), Google search (73.73%), Subject search (67.28%), Advanced search (65.90%), Keyword/Faceted (60.83%), and Publishers search (52.07%).

CONCLUSION

The study found that the ICT-based online or web-based services have to reach the unreached scholars. The study recommends that orientation programmes and frequent online workshops and training programmes may be conducted on how to use and search information from different databases. This may enhance the awareness and skills of the user community and increase the usage and awareness at the initial stage of the scholars and also help to promote and prompt utilization of ICT-based resources and services available in the library. The study suggests that there is a need for training or orientation to the users about to use of wildcard, truncation and proximity search methods for better retrieval mechanisms from the library-subscribed ICT resources for the user community. The library should also initiate and encourage the use of other print media materials and readings for competitive examinations to widen the job opportunities for research scholars in addition to their research field. Lastly, the

library should also equip itself with trained staff to date infrastructure with the latest digital tools and techniques to cater to the needs of the users in the changed scenario.

REFERENCES

- [1] Bayode, D.D. (1996). Information technology a library development in Kwara State. paperpresented at the AGM of NLA, Kwara State Chapter, Ibadan, December 4.
- [2] Ani, O. E., Esin, J. E., &Edem, N. (2005). Adoption of information and communication technology (ICT) in academic libraries: A strategy for library networking in Nigeria. *The electronic library*, 23(6), 701-708.
- [3] Haneefa, M. (2007). Application of information and communication technologies in special libraries in Kerala (India). *Library Review*, 56(7), 603-620.
- [4] Tholkappian, S., &Chandran, D. (2007). Role of E-Books in Academic Libraries: Towards Virtual Library. *5th International CALIBER - 2007*, Feb, 8-10, Punjab University, 663-677.
- [5] Khan, M. H., &Rao A. K. W. (2008), Use of internet services and resources in the departments and centers of Aligarh Muslim University, Aligarh: a study. *11thNACLIN-2008*,Nov, 4-7, Karunya University, 225-245.
- [6] Onwudinjo, O. T., Ogbonna, U. A., &Nwadiogwa, O. J. (2015). Utilization of Law Library Collections for Improving Academic Performance by Undergraduate Law Students of NnamdiAzikiwe University, Awka. *Library Philosophy and Practice (e-Journal)*, 1-13
- [7] Ani, V. A., Ani, E. O., Ugwu, C. O., Nwachukwu, A. I., Obianuko, J. C., Ndaji, G. I., &Maduchie, E. E. (2016). Strategies for enhancing the utilization of Information and Communication Technology (ICT)-based library resources in research. *Library Philosophy and practice (e-Journal)*, 1-26.
- [8] Akpojotor, L. O. (2016). Awareness and usage of electronic information resources among postgraduate students of library and information science in Sourthern Nigeria. *Library Philosophy and Practice(e-Journal)*, 1-23.
- [9] Maan, I. S. (2018). Use of library resources and services of Punjabi University Patiala by the research scholars and post graduate students. *The Journal of Indian LibraryAssociation (JILA)*, 54(3), 143-147.
- [10] Reddy, A. H. P., & Reddy, V. P. (2019). Use of e-sources by the students of AcharyaNagarjuna University engineering college: A survey. *International Journal of Information Dissemination and Technology*, 9(4), 182-185.
- [11] Nair, A. S., & Nanda Lal, T. N. (2020). Awareness and use of domain specific electronic resources among research scholars in University of Kerala. *International Journal of Information Movement*, 4(9), 16-27.
- [12] Dwivedi, S. K., & Verma, S. (2022). Use of electronic resources by users of the Gautam Buddha Central library at the BBAU, Lucknow, Uttar Pradesh: A study. *Library Philosophy and Practice (e-Journal)*, 1-15.
- [13] Hoque, M. (2023). Library resources and services in the newly established model degree colleges of Assam: A study. *Academica : An International Multidisciplinary Research Journal*, 13(5), 21-34.