



---

## Impact of ICT Software Equipped Academic Libraries on Researchers: A Case Study on Delhi NCR

Hemant Sharma<sup>1</sup>, Dr. Dharamvir Singh<sup>2</sup>  
Department of Library Science  
<sup>1,2</sup>OPJS University, Churu, Rajasthan, India

### **Abstract**

*ICT stands for Information and Communication Technology. It is a mix of science, technology, and information transmission practice. It refers to the transmission of data via electronic devices and signals. The advent of ICT and its use in academic libraries has a significant impact on the academic researchers. Using ICT provides easy and quick access to information. Thus, this work seeks to investigate the impact of ICT software equipped academic libraries on academic researchers in the Delhi NCR region. To do so, this research has used quantitative method of research which is analytical in nature and based on questionnaire-based survey. For collecting primary data, questionnaire has been filled by 250 college and university researchers, both male and female. This study found that the majority of respondents said they heard it through friends. They justified using ICT products because it helps them to send e-mails, document exchanges, to access internet data collection, to advance their professional development, to pursue their research easily, etc.*

**Keywords:** *ICT software, easy and quick access, academic researchers, Delhi NCR.*

### **Introduction**

The advent of ICT has had a significant impact on the quality of information libraries have received. The introduction and development of digital and electronic resources has already exerted an impact on how people utilize print and traditional libraries. It has also generated a new wave of research into how people perceive and prefer print and electronic materials (Omehia, 2019). In this digital age, the way of accessing and handling information has been changing dramatically. A number of novel terms like, “digital libraries”, “hybrid library”, “libraries without walls”, “virtual libraries” are in use to define present day libraries (Stephen, 2015).



---

A digital library is commonly thought of as an online version of a library with digital storage and direct communication for obtaining material and duplicating it from a maestro version. It merges technology and information resources to enable remote access to resources, removing the physical barrier between them (Egyankosh, 2022).

As the significance of digital libraries have been acknowledged globally, since the beginning of 21st century, majority of Indian college and universities too, have been upgrading their traditional manual-driven academic libraries into digital ones. Though not any of the academic libraries in India are fully computerized yet, most of them are at various stages of adaptation of digital libraries. Through this process, academic libraries are likely to serve better to its faculty, researchers, students and other members of academia (Husain and Nazim, 2015). Thus, this study seeks to scrutinize the impact of ICT equipped academic libraries and its impact on researchers.

### **Methodology**

In this study the quantitative method of research has been used. The objective of adopting a quantitative method is to collect numerical data from respondents, based on their set of options. The constructed questionnaire includes both open- and closed ended questions. The first part of the questionnaire consists of respondents' demographic and personal queries. And the second part includes questions to make the respondents to open up about themselves and give more explanations and narratives about their understanding of ICT software and its usages. Thus, this study has focused on ten selective digital libraries of colleges and universities of Delhi NCR region. The participants of this study are researchers of these 10 colleges and universities. The sample size of this research is 250 respondents only (*for details see Table 1*). After collecting entire data from the questionnaire, it has been quantitatively analyzed, summarized, and then after shown in tables, lists and graphs.

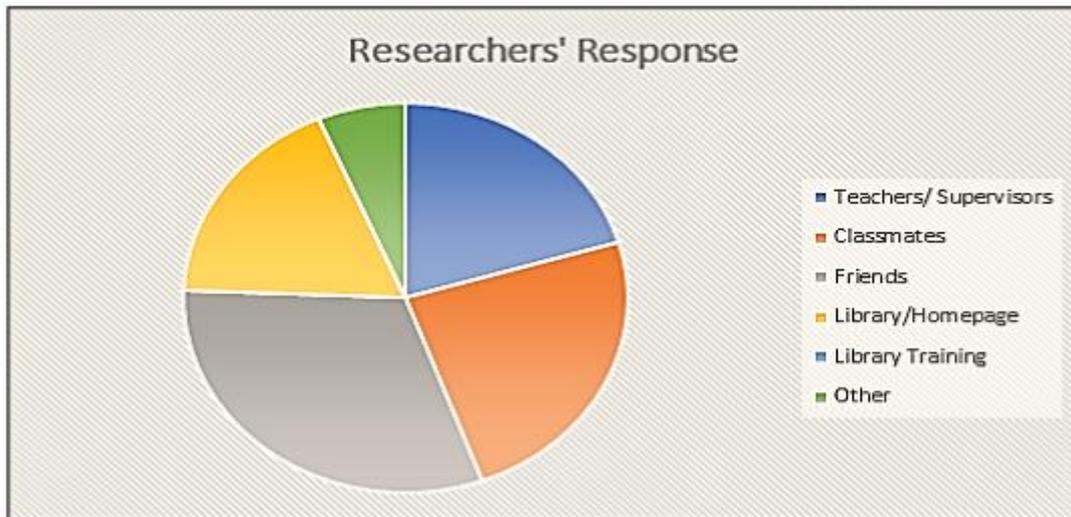
**Table 1: Details of the Respondents (Researchers)**

S. No.	Name of the Institutions	No. of Respondents
1	Chaudhary Charan Singh University	15
2	Delhi University (DU)	48
3	Jawaharlal Nehru University (JNU)	53
4	Institute of Management Studies (IMS)	19
5	Jamia Millia Islamia (JMI) University	12
6	Guru Gobind Singh Indraprastha University	24
7	Jamia Hamdard University	32
8	Delhi Institute of Pharmaceutical Sciences and Research	20
9	Maharshi Dayanand University	18
10	K R Mangalam University	9

The researcher personally visited all of the mentioned libraries of universities and colleges of Delhi NCR and handed over 250 questionnaires. When the researcher received the completed questionnaires, he discovered that roughly 19 of them were either incomplete or had errors in the marking. As a result, the researcher had to dismiss the 19 surveys and investigate the remaining 231 completed questionnaires. Thus, the overall response rate is 92.4%.

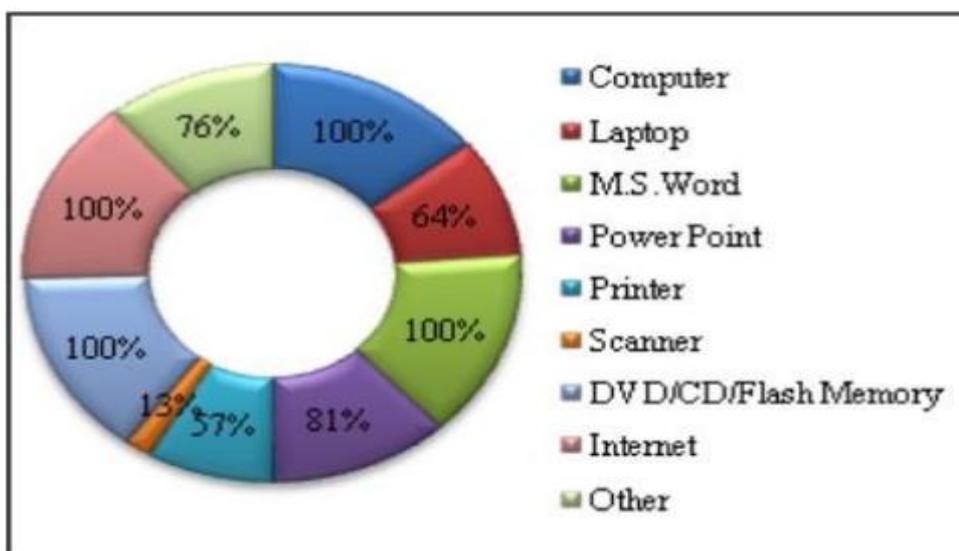
### Result and Discussion

While asking about how the researchers have learned about ICT? The researcher found that majority of respondents heard about it through their friends (*for details see figure 1*).



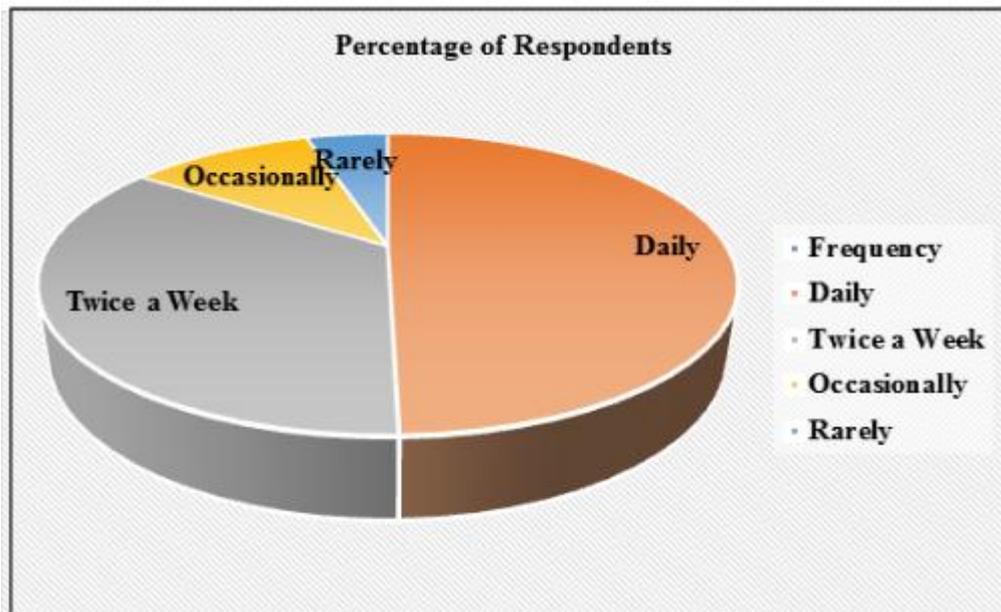
**Figure 1: Primary way to learn about ICT**

Further, when the researcher asked the respondents how they utilize ICT product (e-mail and document interchange, electronic blogs, electronic documents, internet data collection, online electronic databases, manuscripts, proposals and papers, professional development, writing, to explore web OPACS, partake in forums, etc.). The respondents recorded that maximum respondents agreed that it is the most often utilized storage medium home video rotary memory in their PC, and online browsing experience. Their laptops (64 percent) and power point presentations (81 percent) are also compatible with it, as is their printer (57 percent), scanner (13 percent), and other (57 percent), devices (including social media sites like Facebook and Twitter) are compatible with it (76 percent) (*for details see figure 2*).



**Figure 2. Use of ICT Software by the Respondents**

It is noticed that 49.6 % of the respondents were using the academic libraries daily. Around 34.8 % of the respondents were using the academic libraries twice a week and 10.8 % of the respondents were using the academic libraries occasionally. Whereas, only 4.8 % of the respondents were using the academic libraries rarely (*for details figure 3*).



*Figure 3. Distribution of Respondents by frequency level in using Academic Libraries*

**Table 2. Respondents’ Awareness of the Availability of Digital Archives Collections**

S. No.	Digital Archives Collections	Highly Aware	Aware	Moderately Aware	Somewhat Aware	Never
1	Rare Books	24	55	37	14	120
		9.6%	22.0%	14.8%	5.6%	4.8%
2	Research Publication	68	118	23	13	28
		27.2%	47.2%	9.2%	5.2%	11.2%
3	Audio/Video Speeches	45	27	112	18	48
		18%	10.8%	44.8%	7.2%	19.2%



4	In-house Publications	25	38	41	59	87
		10%	15.2%	16.4%	23.6%	34.8%
5	Newspaper Clippings	16	52	86	26	70
		6.4%	20.8%	34.4%	10.4%	28%
6	Government Reports	23	52	84	21	70
		9.2%	20.8%	33.6%	8.4%	28%
7	Patents and Standards	52	16	76	56	40
		20.8%	6.4%	30.4%	22.4%	16.0%

Table 2 demonstrates respondents' knowledge of digital archive collections. 9.6% of respondents were very aware of digital archives' rare book holdings, and 22% were aware. 14.8 percent of respondents were somewhat aware of digital archives' rare book holdings. 4.8% never heard of rare books. Further, 27.2% of respondents were very aware of digital archive research publishing collections, while 47.2% were aware. 9.2% of respondents were moderately aware of digital archive research publications. 5.2% were slightly aware. 11.2% of respondents were unaware of digital research archives. 59.4% of respondents were aware of digital archives' audio/video Speeches/lectures collections. 6.7% knew about the audio video collections. 15.4% of respondents were somewhat aware of digital archives' audio/video speech/lecture collections. 11.5% of respondents were unaware of digital speech and lecture archives. Moreover, 18% of respondents were aware of digital audio/video Speeches/lectures archives. 10.8% knew about the audio video collections. 44.8 percent of respondents were somewhat aware with digital archives' audio/video speech/lecture collections. 19.2% of respondents were unaware of digitised speech and lecture archives.

Also, the table 2 demonstrates that 10% of respondents were very aware of In-house digital archives, and 15.2% were aware. 16.4% of respondents were aware of In-house digital archives. 34.8 percent of respondents were unaware of the digital archives of In-house publications. 6.4% of respondents were aware of digital newspaper clipping archives, while 20.8% were aware. 34.4% of respondents knew about digital newspaper clipping archives. 10.4% were somewhat familiar and 28% had never heard of digital newspaper clipping

archives. Additionally, 20.8% of respondents were very aware of digital patent and standard archive collections, and 6.4% were aware. 30% of respondents were somewhat aware of Patents and Standards' digital archives. 22.4 percent of respondents were somewhat aware of Patents and Standards' digital archives, and 16.0 percent had never heard of them.

**Table 3: Objective of Accessing Digital Academic Library**

S. No.	Objective	Always	Often	Sometimes	Rarely	Never
1	Research	114	49	37	27	23
		45.6%	19.6%	14.8%	10.8	9.2%
2	Professional Development	49	37	45	98	21
		19.6%	14.8%	18%	39.2%	8.4
3	Update Yourself	93	49	32	50	26
		37.2%	19.6%	12.8%	20%	10.4%
4	Others	48	36	79	66	21
		19.2%	14.4%	31.6%	26.4%	8.4%

Table 3 shows respondents' opinions on digital academic library goals. 45.6% of respondents always used digital academic libraries for study, and 19.6% did so regularly. 14.8%. Researchers sometimes used digital academic libraries. 10.8% rarely used digital university libraries for study. 9.2% never used digital academic libraries for study. Also, 19.6% of respondents always use digital academic libraries for professional growth, while 14.8% do so often. 18% of respondents used digital academic libraries for professional growth. 39.2% of respondents rarely or never used digital academic libraries for professional growth. Moreover, 37.2% of respondents always updated themselves using digital academic resources, and 19.6% did so often. 12.8% of respondents use digital academic libraries to update themselves. 20% of respondents rarely updated themselves using digital academic libraries, and 10.4% never did. And 19.2% of respondents always accessed digital academic

libraries for other purposes, and 14.4% did so regularly. 31.6% of respondents used digital academic libraries for other purposes. 26.4% of respondents rarely or never accessed digital academic libraries for other purposes.

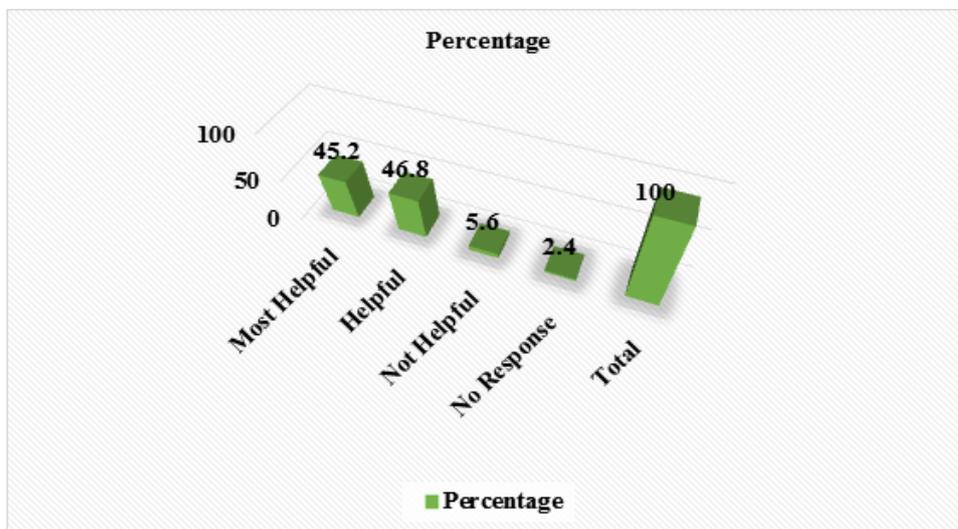
**Table 4. Major issues respondents’ face while using digital academic libraries for accessing digital archives**

S. No.	List	Strongly Agreed (%)	Agreed (%)	Neutral (%)	Disagreed (%)	Strongly Disagreed (%)	Total (%)
1	Inadequate Funding	18.1	33.3	33.1	14	15	100
2	Scarcity of Human Resources	7.5	34.2	46.9	4.2	7.1	100
3	Lack of IT support	31	50.2	6.2	6	6.7	100
4	Data Storage	31	11.5	38.1	12.9	6.5	100
5	Copyright Issues	30	41.2	13.5	9.4	6	100
6	Lack of expertise	15.6	36.2	28.7	13.7	6	100

Table 4 illustrates respondents' major digital archive difficulties. 18.1 percent of respondents strongly agreed that low funding is a problem with digital archives, and 33.3% agreed. 33.1% of respondents were neutral, and 14% disagreed that low funding is a problem with digital archives. 1.5% of respondents disagreed that low financing is a concern with digital archives. 7.5% of respondents strongly agreed that lack of human resources is a serious concern when using digital archives, and 34.2% agreed. 46.9% of respondents were neutral. 4.2% of respondents disagreed that a shortage of human resources hinders digital archives. 7.1% of respondents disagreed that lack of human resources is a concern with digital archives. 31% of

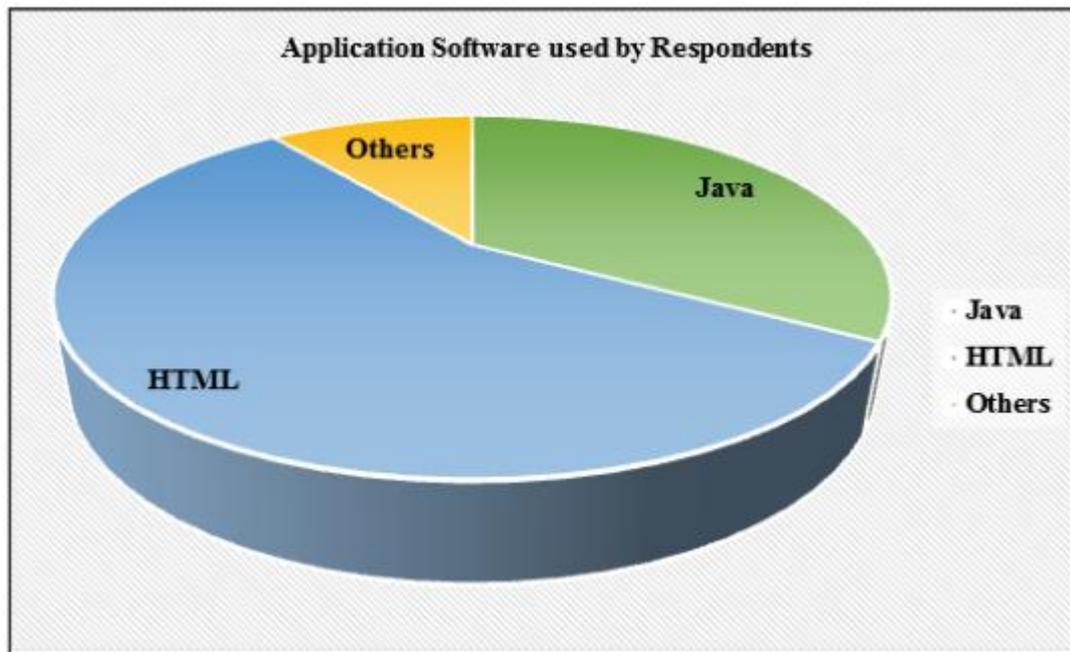
respondents strongly agreed that lack of IT assistance is a serious concern with digital archives, and 50.2% agreed. 6.2% of respondents were neutral, 6% disagreed that lack of IT assistance is a serious problem with digital archives, and 6.7% strongly disagreed. 31% of respondents strongly agreed that data storage is a big concern with digital archives, and 11.5% agreed. 38.1% of respondents were neutral, and 12.9% disagreed that data storage is a concern with digital archives. 6.5% of respondents disagreed that data storage is a concern with digital archives. Copyright issues are a big difficulty for 30% of respondents when using digital archives, while data storage is a problem for 41.2%. 13.5% of respondents were neutral, and 9.4% disagreed that data storage is a concern with digital archives. 6% of respondents disagreed that data storage is a big challenge with digital archives.

Furthermore, when respondents were asked about their satisfaction with the digital libraries, the results indicated that a majority of the respondents i.e., 113 respondents out of 250 helpful, opinion of 14 respondents that is not helpful for research purpose and 6 have no response to this query. It is sure that numbers of respondent's analysis the digital library services for research purpose is most helpful (*for details see figure 4*).



**Figure 4. Satisfaction of Respondents by using ICT equipped academic libraries for research objective**

Figure 5. shows that 54% respondents of academic libraries use HTML application software package. Whereas 32% of the respondents using JAVA application software package. It is observed that both JAVA and HTML similar used for uses of science and technology libraries.



*Figure 5. Application Software used by Respondents*

**Table 5. Respondents’ Responses on Digitization of Libraries**

Response	Yes	No	Can’t Say
Question			
Are you in favour of digitization of libraries?	198	40	12

Table 5 demonstrates that the majority of respondents (198 out of 250) agrees that they are in favour of digitization of libraries and they do recognize the significance of digitization in this contemporary world. Though the survey recorded 40 responses against the emergence of digitization of libraries and 12 responses for can’t say. Besides, the survey found 4 blank responses.

### Conclusion

This research found that the majority of respondents said they heard about ICT through friends, which equates to 250 researchers. They justified using ICT products because it helps them to send e-mails, document exchanges, to access internet data collection, to



---

advance their professional development, to pursue their research easily, etc. Additionally, the research found that the majority of respondents agreed that it is the most often utilized storage medium home video rotary memory in their PC, and online browsing experience. They agreed that their laptops and power point presentations are also compatible with it, as is their printer, scanner, and other devices (including social media sites like Facebook and Twitter) are compatible with it.

The research found that majority of respondents know about the availability of digital archives collections. It is found that respondents mainly use departmental server over other types of servers. It is also found that majority of respondents visit libraries frequently for their research purposes. The majority of respondents agreed that the use of ICT in academic libraries has made their research work very easy. Although most of them are not aware with the copyright or legal issues related to digital collections. But most of the respondents are very satisfied with the facilities provided by their academic libraries. Though they agreed that there are a few constraints they usually face like: lack of IT support, copyright issues, lack of expertise, lack of administrative support etc. Moreover, the research found that the majority of the respondents agreed that ICT academic libraries are most helpful for research purpose.

## References

- Egyankosh (2022), “Introduction to Digital Library”, [Online: web] Accessed on 8 May 2022, URL: <https://egyankosh.ac.in/bitstream/12345678/35931/5/Unit-5.pdf>
- Husain, S. and Nazim, M. (2015), “Use of different information and communication technologies in Indian academic libraries”, *Library Review*, 64 (1/2): 135-153.
- Omehia, A. E. (2019), “Library and Information Science Education and Learning In A World Of Difference”, *International Journal of Library and Information Science Studies*, 5 (5): 1- 12.
- Stephen, G. (2015), *Utilization of ICT Based Resources and Services in Engineering College Libraries: Case Study of Sivangangai and Ramanathapuram Districts*, Ph.D. Thesis, Tamil Nadu: Alagappa University.