

# USERS' PERCEPTION, ADOPTION AND USAGE BEHAVIOR FOR OPEN ACCESS JOURNALS: A STUDY OF CENTRAL UNIVERSITY LIBRARIES OF NORTH INDIA

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by

***Neha Kanojia***

Enrollment No. 142/10

SUPERVISOR

***Prof. Shilpi Verma***

DEPARTMENT OF LIBRARY & INFORMATION SCIENCE  
SCHOOL OF INFORMATION SCIENCE AND TECHNOLOGY  
BABASAHEB BHIMRAO AMBEDKAR UNIVERSITY

(A CENTRAL UNIVERSITY)

VIDYA VIHAR, RAEBARELI ROAD, LUCKNOW-226 025  
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## ABSTRACT

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### Introduction:

Research and Development is an empirical activity and it is also known as back bone of a directly development of any nation in the world wide. It is also a characteristic of a knowledge society. With the help of digital information and communication technology, research scholars are producing new and different varieties of knowledge and disseminating it to the required user groups worldwide with the help of scholarly publishing and communication. Rapid growth in scholarly publishing has been observed over the last few years. Information and Communication Technologies have had a great impact on e-publishing and now it is known as Open Access. **Open Access** -- In general, "Open Access" refers to the availability of free and permanent access to published research, as well as clear guidelines for readers to share and use the content. This initiative has helped overcome several challenges in the field of "Open Access" journals and "e-prints" (i.e., preprints or post-prints) repositories. Both provide the full text of scholarly articles freely available to everyone on the open digital network. Although some questions swirl about copyright, peer review, and publishing costs, because in this arena, individual authors are taking action by posting their articles to personal or institutional web pages and to disciplinary repositories. Universities and research centers with private organisations supporting and encouraging open access and scholarly outputs have created institutional repositories to facilitate the dissemination, access, reuse, and preservation of the work growing from academic and scientific activities. Containing the multidimensional features of **e-Journals**, they are becoming the primary choice of academic as well as public library users. Nowadays, it has seen a sudden decrease in the number of print journals and a high increase in the number of electronic journals (e-journals). It is important to study the use of e-journals and scholars' attitudes, perceptions, adoption and, one more thing, usage behaviour towards electronic publishing (**e-publishing**) due to the key role that **electronic journals** could play in scientific research and development. In the developing countries, academics are fast adapting to the Internet as a tool of information for teaching anchor or research and development. However, it is sometimes found to be low in underdeveloped areas due to several major problems such as end-user teaching, connection barriers, limited access to personal computers,

poor searching skills, a lack of bandwidth, insufficient end-user training, and a lack of funds. On the other hand, developing countries users fully enjoy the benefits of the Internet and e-publishing. Open Access contains some silent features like digital literature, without any charge, free-of-copyright. It's consistent with copyright, peer review, conservation, imprint, indexing, and supportive services associated with conventional scholarly literature. In the simple meaning of Open Access, users can read, copy, download, print, distribute, and search across several platforms. Open access resources are not limited; they may vary in different forms, such as open access databases, open electronic-books, open access repositories, and institutional depositories. If we recollect, the copyright dates back to 1665 A. D. when the "Royal Society of London, England" issued the first journal titled, "the Journal des Scavans" in France. Scholarly journals have been a means for researchers to publish and disseminate the results of their original work. The scholarly journals provide a platform for researchers and academicians to share and disseminate their original research findings and also serve as a public registry of scientific communication.

The Open Access Journal initiative has solved approximately all the problems and challenges of e-publishing and communication provided over the internet. The emergence of open access initiatives has been attributed to the harsh attitudes of commercial publishers' passion for excessive charges for publishing articles, access to highly expensive print journals, limited access of expensive journals to other researchers' scholarly work and time lapse for publishing of research findings. Scholarly communication refers to the process of fabrication, modification, evaluation (peer reviewing), dissemination, and preservation of knowledge related to research and other scholarly efforts. It is the most crucial component of the research life cycle. The most common method of scholarly communication in the recent past has been through writing up the findings of research into a book or an article to be published in a scholarly journal. But with the induction of network and other ICT (Information Communication Technology) applications, there is a major shift in the scholarly communication process from print media to electronic media.

### **Statement of the Problem:**

Although studies on various aspects of data gathering have been conducted in the past, this issue has received very little attention. The present study is conceived under the title: **"USERS' PERCEPTION, ADOPTION AND USAGE BEHAVIOR FOR OPEN ACCESS JOURNALS: A STUDY OF CENTRAL UNIVERSITY LIBRARIES OF NORTH INDIA"**.

### **Difference between Perception, User Behaviour and Adoption: -**

- It is called **"Perception"** when we have an opinion about any information or data that it is correct or incorrect.
- Scholars, students, and faculty members actively seek current information from the various media available in libraries, this process known as **"User Behaviour"**.
- The procedure for implementing a new topic, method, or system. It's referred to as **"Adoption"**.

### **Scope of the Study:**

In India, central universities, also known as union universities, are established by an Act of Parliament and are overseen by the Ministry of Education's Department of Higher Education. The University Grants Commission (UGC), which is empowered by the University Grants Commission Act, 1956, recognizes universities in India in general.

For this study the Central Universities' Libraries of Northern India dealing with Users' Perception, Adoption & Usage Behavior for Open Access Journals have been selected. The north zone of India comprises of following states as- Jammu & Kashmir, Uttarakhand, Punjab, Haryana, Uttar Pradesh, Delhi, Himachal Pradesh.

**Table 1.1 List of Central University's Name**

<b>Sr. No.</b>	<b>University's Name</b>	<b>Year</b>	<b>State</b>
1.	Hemwati Nandan Bahuguna Garhwal University, Srinagar, Garhwal-246174	1973	Uttarakhand
2.	Banaras Hindu University, Varanasi, U.P.-221005	1916	Uttar Pradesh
3.	Jamia Millia Islamia University, New Delhi-110025	1920	New Delhi
4.	University of Delhi, New Delhi-110007	1922	
5.	Babasaheb Bhimrao Ambedkar University, Lucknow, U.P.-226025	1996	Uttar Pradesh
6.	Central University of Harayana, Mahendergarh, Harayana-123029	2009	Harayana
7.	Central University of Himachal Pradesh, Kangra, Himachal Pradesh-176215	2009	Himachal Pradesh
8.	Central University of Punjab, Bathinda, Punjab-151001	2009	Punjab
9.	Central University of Jammu, Samba, Jammu-181143	2011	J & K

**Limitations of the Study:**

The study is based on the Nine Central University Libraries, three central universities have been eliminated from the study since they are not UGC affiliated. From each state, one university is selected except Uttar Pradesh and New Delhi, because these states have 4-4 universities, therefore 2 are selected from each of the state. Various selection criteria & are used for Open Access Journals, user perceptions of open access journals and services, and the general goal of accessing open Access journals is also given.

The researcher have excluded Hemwati Nandan Bahuguna Garhwal University, Srinagar, Uttarakhand in research scope, because they did not allowed to visit the University Library due to growing COVID-19 issues.

### **Objectives of the Study:**

1. To find out the awareness level of users with the open access journals in universities,
2. To know out the accessibility of Open Access Journals (OAJs),
3. To analyses the usage of Open Access Journals by the users,
4. To determine the attitude of users towards Open Access Journals,
5. To estimate the level of satisfaction of users with the OAJs,
6. To rank the OAJs on the basis of the features offered by OAJs and the satisfaction level of their users,
7. To identify the problems faced by users in accessing OAJs.
8. To suggest improvement strategies for OAJs based on the inferences drawn from the study.

### **Hypothesis:**

Hypotheses are imaginings, probabilities, or simply educated guesses about a situation or condition. It is a comprehension of relationships between the dependent and independent variables.

The following hypotheses are framed for the current study:

**H1.** The user are aware of activities in Open Access Journal and they are used for making fast development.

**H2.** The Open Access Journal are generating large amount of information that can be accessed without any kind of barriers.

**H3.** Most of the resources available in Open Access Journals are being used by the users at various universities.

**H4.** The library of Central University of North India offers users programmes to satisfy their educational needs for Open Access Journals.

### **Research Methodology:**

Research aims to provide answers to questions through the use of particular techniques. The fundamental structure that offers instructions for conducting research is known as research design. It serves as a guide or blueprint for how the research is to be carried out. A research design is the organization of parameters for data collection and analysis with the aim of balancing procedure economy with relevance to the research goal.

### **Designed questionnaire:**

A questionnaire is the most suitable tool for data collection. Therefore, the questionnaire was designed with the stated goals in mind. Two sets of questionnaires were prepared, one for librarians of the Central University Libraries and another one for the users of the Central University Libraries. Two sets of semi-structured questionnaires were designed to collect primary data. The questionnaire includes both open-ended and closed-ended questions. The first questionnaire was designed for the librarian to obtain the data of users' perception for open access journals from Central University Libraries of North India, and the second questionnaire was designed to obtain the data of users' perception, adoption and usage behaviour for open access journals from Central University Libraries of North India. To identify and investigate the specific factors that aided or hindered the use of open access journals this was designed

### **Pilot Study:**

Before starting the questionnaire survey to the all Central University Libraries of North India, a pilot study was conducted to find out the demerits of the questionnaire. A pilot study is beneficial for obtaining good research results. For the pilot study, questionnaires were sent to the librarian and 20 questionnaires were sent to the users of Gautam Buddha Central Library, BBAU, Lucknow.

### **Survey for data collection:**

A total of two questionnaires were formed. One set for librarians and another set for users of the Central University Libraries of North India. Librarians and users were given structured questionnaires to fill out. The aim of this survey was to gather

information on current open access journals as well as to identify and analyze the specific factors that aided or hindered the use of open access journals.

**Sample Techniques:**

Eight librarians and 600 users from the Central University Libraries of North India participated in the current study. The respondents (library users) from each of the eight central universities were chosen using a Simple Random Sampling Method. Librarians from the Central University Libraries of North India filled out eight questionnaires.

**Statistical tools for data analysis:**

This study's objective is to determine how open access journals are used in the central libraries of Central University. A simple percentage analysis was used to investigate the current state-of-the-art infrastructure and resources for Open Access Journals in the central libraries of Central University.

The analysis part employed suitable statistical techniques to the data collected and tabulated. Keeping in mind, the nature of the present study, the following statistical tools were used:

- Simple percentage score
- Table & Graphs
- Chi-square test

MS Excel was used to analyse the collected data. The data was analysed using the chi-square test for user analysis. To represent the data, graphs, pie-charts, histograms, and other visual representations have been developed. The citation and references were presented in accordance with the APA style, edition 7th. The study was aided by other methods such as observation and interviews.

**Significance of the Study:**

The demand for library services has increased as a result of the expansion of e-resource services in libraries. Consequently, a modern library based on e-resource library services is required in order to provide users with better facilities. The

examination was conducted in order to learn more about the different types of open access journals and e-resources available, as well as their awareness, utilization, level of satisfaction, and difficulties in using web-based library services. The study is grounded in reality, and the findings can be applied to better open access journals and user resources. This study will offer recommendations for how to make the current open access journals better serve Central University of North India users.

### **Major Findings Analysis by Librarian's Questionnaires:**

The major finding by analysis of the librarian's questionnaires:

1. The internet access services (like: Cyber Section, Computer & Internet Facilities, etc.) are available in all the Central University Libraries of North India.
2. It was found that all selected Central University's libraries prefer the purchase consortia for e-journals and prefer the subscription agency for e-journal subscriptions.
3. According to the finding result, it was found that Central University's Library prefers both (print & e-journals) for e-journal subscription.
4. Mostly Librarian of Central University's Library prefers the Taylor & Francis, Springer, Cambridge University Press, Oxford University Press, Blackwell and Elsevier publisher for e-journals subscription.
5. It was found that use of self-archiving options by university librarians provides better services to users. Every Central University library has an institutional repository that provides better services to users.
6. Librarians choose the multiple factors to consider when selecting open access journals.
7. Librarian and all library staff faced so many types of problems librarians face (low impact factor, delay in publication process, lack of awareness, lack of inadequate skills, lack of equipment, lack of journal prestige, and loss of author copyright control) were addressed.

### **Analysis of Major Findings from User Questionnaires:**

The following findings from the analysis of users' questionnaires are given below:

1. According to the research results, the majority of users in all of the selected 8 central university libraries was aware of and used to access Open Access Journals on a daily basis.
2. The study discovered that the majority of users from the selected Central University Libraries use OAJs to study course work, update subject knowledge, conduct research work, and write articles.
3. Most of the (78.66%) users' perceptions of open access journals are positive.
4. The study discovered that most of the users (75.33%) preferred the quantity to meet user need criteria for selecting OAJs. After that, (71.66%) preferred the subject relevance of OAJs.
5. It was found that most users preferred the library website link and also found that the majority of users preferred personal computers and Android phones.
6. According to the research study, the most common formats for accessing open access journals are PDF and HTML web pages by users and users prefer Google and Yahoo search engines.
7. It was found that the majority of users (70.66%) preferred the Uniform Resources Locator (URL) search technique, 69.33% of users preferred the Search Engine, and the lowest (45.83%) of users preferred the Digital Object Identifier (DOI) search technique.
8. The study revealed that the majority of users preferred the Directory of Open Access Journals (DOAJ), 54.33% of users preferred the E-Content and the lowest (22.33%) of users preferred the Scielo (Scientific Electronic Library Online) source.

9. According to the research findings, this study shows that 45.33% of users preferred the Springer database, 44% of users preferred the Taylor & Francis database, 43% of users preferred the Web of Science database, 42.66% of users preferred Elsevier, and the lowest (19%) of users preferred the Ebsco Business Source Elite database.
10. This study revealed that most users believed that users preferred the Open Access Journal Portal for OAJs.
11. The study revealed that the majority of users are not aware of the Open Access Knowledge Fund and they are not inclined to apply for the Open Access Knowledge Fund due to their ignorance of this policy.
12. Majority of users are satisfied with the use of open-access journals and with assisting library staff in searching for library materials.
13. It was found that most users highly suggest the library for accessing open access journals through the Orientation/Training programme, and the library should provide assistance in accessing open access journals by library staff.
14. This study found that the majority of users experienced numerous issues when trying to access open access journals and that the majority of users were disappointed by the library's lack of journals.

### **Analysis of major findings based on study objectives:**

#### **Objective 1. To find out the awareness level of users with the open access journals in universities.**

- It was found that most users are aware of open access journals (table 5.2.1). It was also found that most users prefer the use of OAJs (table 5.2.2).

#### **Objective 2. To know out the accessibility of open access journals.**

- It was found that the majority of users access the OAJ on a daily basis, with much more time. It was also found that users prefer accessing the library website link for OAJ through Google. Users preferred the OAJs in PDF format (table 5.2.3, 5.2.5, 5.2.11, 5.2.13, and 5.2.14).

**Objective 3. To analyses the usage of open access journals by the users.**

- After study' analysis, it was found that the analysis of the usage of open access journals by users on the basis of studying course work, updating subject knowledge, current information, preparing articles, and general activities (table 5.2.4 and 5.2.9).

**Objective 4. To determine the attitude of users towards open-access journals.**

- The study revealed that the majority of users have a positive perception of open access journals (table 5.2.7).

**Objective 5. To estimate the level of satisfaction of users with the OAJs.**

- Based on open access journals and services, this is an estimate of user satisfaction with open access journals (table 5.2.21 and 5.2.22).

**Objective 6. To rank the OAJs on the basis of the features offered by OAJs and the satisfaction level of the users.**

- According to the basis of the features offered by OAJs and the satisfaction level of their users, OAJs are a very important tool for learning. Features provided by OAJs and the satisfaction level of the users (table 5.2.16, 5.2.17, 5.2.18, 5.2.21, and 5.2.22).

**Objective 7. To identify the problems faced by the users in accessing OAJs.**

- The table and figure 5.2.24 represented the problem faced while browsing open access journals at the overall institute of scope and university levels. It was found that the majority of users are disappointed by the lack of journals available in the library and have encountered coverage in an open access journal that was not appropriate for their own research area. According to the research study, users faced so many barriers, i.e., lack of training; no staff provided by the library; time-consuming; guidance from experts; ICT infrastructure and ICT skills, etc. Few users believed that print journals were better than e-journals, and users faced copyright and licencing issues (table 5.2.24).

**Objective 8. To suggest improvement strategies for OAJs based on the inferences drawn from the study.**

- Some suggestions for improvement strategies based on the findings of the study:
  1. Library must provide the orientation programme for the e-resources.
  2. Paid journals should be free after some time.
  3. The Internet speed should be higher or it takes a lot of time to explore.

All suggestions are based on the study's findings, which are included in the user suggestions.

**Librarian's Suggestions:**

Suggestion is an essential component of any research project. Suggestions provide information for improving service.

**Suggestion:** The use of a mobile application to keep improving OAJ usage should be incorporated by library stack holders.

**Users' Suggestions:**

1. The librarian should be an expert so that he/she helps the user in anyway. All books and journals should be available in the library.
2. The availability and accessibility of online journals should be improved.
3. Students should be aware of different types of open access journals. Training is essential for this.
4. Open access journals should be free from subscriptions and registration charges.
5. Indexing should be done or according to the year, papers with a higher impact factor should be given higher priority.
6. It's very time-consuming to search for a particular domain. The Internet speed should be higher or it takes a lot of time to explore.

7. Improvement in the source of open access journals is essential for more information communication.
8. Most of the important articles are only in abstract form. The journals should be shown as full text in PDF format.
9. For accessing open access journals, awareness sessions should be provided in either an online or offline format.
10. Include extra inter-disciplinary knowledge about it so the students of every subject are also satisfied.
11. All journals should be open access to increase peer review and accessibility to users.
12. In India, all libraries should be connected through a common portal for sharing information and technology.
13. Every person should have access to every open access journal; International journals should be available in all libraries.
14. It is beneficial to use any special search engine and digital tool designed for open access journals.

### **Testing of Hypothesis:**

**H1.** The user are aware of activities in Open Access Journal and they are used for making fast development.

Level of significance .05 (from (5.2.1 & 5.2.2.))

Awareness =  $\chi^2= 136.507$                       df= 21                      p = 32.671

Use =                       $\chi^2= 107.2$                       df= 21                      p = 32.671

**H0:** Users are aware and use OAJs.

**H1:** Users are not aware about use OAJs.

Since  $p > .05$ , therefore p-value of chi-square indicates that the difference is no statistically significant. Therefore, null hypothesis (Ho) is accepted and alternate

hypothesis (H1) is rejected. Thus, the above hypothesis is accepted as most of the users of central university libraries are well aware and use open access journals regularly.

**H2.** The Open Access Journal are generating large amount of information that can be accessed without any kind of barriers.

Level of significance .05 (from (5.2.24)).

$$\text{Barriers} = \chi^2 = 83.45 \qquad \text{df} = 70 \qquad \text{p} = 90.531$$

**H0:** Faced the barriers.

**H1:** Without facing any kind of barriers.

Since  $p > .05$ , therefore p-value of chi-square indicates that the difference is no statistically significant. Therefore, null hypothesis (Ho) is accepted and alternate hypothesis (H1) is rejected. The above said hypothesis is therefore accepted because the majority of users of central university libraries experience difficulties when trying to access open access journals.

### **Conclusion:**

The current research study focuses on open access journals and the user's perception, adoption, and usage behaviour of subscription journals. The internet facility enables libraries to provide online resources and services to their patrons. India is not only leading the open access movement in developing countries, but it is also raising awareness of the qualitative scholarly literature produced in these countries in developed countries. The Indian literature available in open access journals and archives is accessed in developed countries. The majority of the efforts are still focused on establishing open access archives or subscription journals.

This study present demonstrates the credibility of open access journals. In order to reflect the criteria of the financing practices, our society, research institutions, higher education institutions, and other national-international funding agencies are increasingly adopting standards and developing requirements. The study's findings coat a comprehensive picture of the impact that open access journals and other resources have on North Indian central university libraries. This study sought to fill

some research gaps in open access journals, focusing on how researchers in developing nations perceive, are aware of, and use open access journals. This study may help spread knowledge about predatory journals and encourage authors to submit their work for consideration by reputable journals.