

## ACCESS AND USAGE OF ELECTRONIC JOURNALS BY THE STUDENTS OF PANJAB UNIVERSITY, CHANDIGARH

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### ABSTRACT

*The present study investigates the access and usage of electronic journals by the students of Panjab University, Chandigarh, acknowledged as topmost university of India. It also reveals the present informational infrastructure of university library and its services offered to students. The study describes the mode of access and usage statistics of electronic journals; problems faced while accessing online journals and suggestions to improve the offered services. A structured questionnaire is administered among 135 students and out of which 100 filled questionnaires received with a response rate of 74.07%. The outcomes of the study are; Electronic journals are mostly accessed by post graduate students and research scholars; maximum students' use e-journals for research purpose; Most of the students access these resources inside the library and usage level of electronic journals is high among research scholars. Some of problems faced by students are; limited time to use computers, inadequate computer systems, low Wi-Fi bandwidth and lack of instructions & support service.*

**KEYWORDS:** *Electronic Journals, Panjab University Library, Access and Usage of E-journals*

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### INTRODUCTION

The unprecedented boom in electronic format of journals has greatly affected the serial management practices in libraries and the biggest change is seen in the attitude of the users as they always look for electronic form of journal instead of printed one. This behavioural change has also affected the pattern of self study and research activities. Now, the dice is on the librarian side, as he is the only person to select the online resources for the library, keeping in view all the subjects and courses being offered in his parent organization. It is noticed sometimes that problem only occurs, when selection and subscription of online contents are to be made for different subject fields. The decision is made on the basis of scope, coverage and advantages of subject specified electronic journals. It is also pertinent to assess the Information Technology or IT infrastructure of library before subscribing and offering online contents for the users. This paper evaluates the present informational infrastructure with specific reference of electronic journals available with Panjab University Library, as these are highly utilized resources by student's community and faculty. The paper examines the access and usage of electronic journals by the university students by recording their responses through a structured questionnaire. The study also revealed some lapses on the part of university library management and various problems faced by students while accessing electronic resources.

### About Panjab University

Panjab University is one of the oldest and premier universities of India, situated in Chandigarh, in Northern part of India. The university was established in 1882 as University of Punjab at Lahore (Pakistan). After the partition in 1947 the university had no campus of its own for nearly a decade. The administrative office was located at Solan, Himachal Pradesh and the teaching departments functioned from Hoshiarpur, Jalandhar, Delhi and Amritsar. In 1956 the university was relocated to Chandigarh, on a red sandstone campus designed by Pierre Jeanneret under the guidance of the legendary Le Corbusier. Panjab University was ranked the #1 university in India and 32<sup>nd</sup> in Asia in the Times Higher Education World University Rankings list 2013-14<sup>1</sup>. The university comprises 75 teaching and research departments 15 advance research centres of different disciplines.

### About Panjab University Library

The Central A.C. Joshi Library<sup>2</sup> has 650,000 printed documents which include books, bound volumes of journals, theses/dissertations, rare books, reports, government documents, back files of newspapers, and a prized collection of 1490 manuscripts and a collection of back volume of 150,000 periodicals, some of which are rare collections from the 19th century. The university library has been recognised as one of the six national centres for data-information-distribution in the UGC's INFLIBNET program. Book and journal collections are augmented by online sources. Besides the two main reading halls there are reading rooms in the Periodicals and Special Collections Sections, and an Outer Reading Hall which is kept open 24 hours for studying personal books. There is a provision of 24 research carrels for teachers engaged in serious research work, and 90 lockers for research scholars. The Library is fully computerized with an integrated system connected to the Campus Network providing Internet and e-mail facility to the University community. The reference collection of the Library is continuously updated, and augmented with the acquisition of CD-ROM databases and access to on-line databases on Internet. On-line Public Access Catalogue facility is available inside as well as outside the library. The Library subscribes to about 600 print periodicals. Besides, following electronic journals databases are being subscribed;

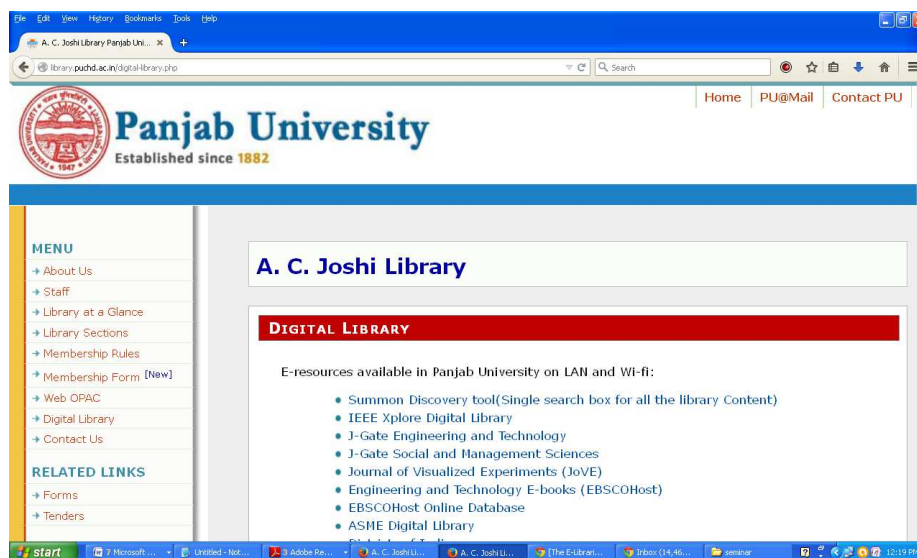
- Emerald Management EM 200
- Science Direct
- **EBSCOHOST**: Academic Search Complete
- IEEE Electronic Library
- JoVe
- ASME Online
- J-Gate Plus
- ProQuest Indian Journals
- ACM Digital Library
- Lecture Notes in Computer Science

It also gives access to approximately 5000 online full text journals through INDEST- Consortium and UGC-

INFONET.



**Figure 1: Panjab University Library Building**



**Figure 2: Electronic Journals Portal of Panjab University**

### Statement of Problem

The Panjab University Library is regarded as one of major component of university's knowledge infrastructure for self-learning and research purposes. Besides vast collection of printed material, it is also subscribing many online databases and electronic journals for students and faculty members of different departments. With active membership of various programs related to online resource sharing, consortium and institutional networking, the university provides many scholarly contents in electronic form accessible through Internet, Computers and other networks. Having a huge informational infrastructure with variety of electronic contents and catering large numbers of students and faculty member, a library may have to face various challenges. This study intends to examine the behavioural pattern of library users with special attention towards access and usage of electronic journals. The study also includes the assessment of informational infrastructure, satisfaction level and problems faced while using online resources by student community.

### Objectives of the Study

The present study is done, keeping in mind the following objectives;

- To assess the students' ease of accessing electronic journals.

- To ascertain the importance of electronic journals and upto what extend they are being used by students.
- To study the problems faced by the users while accessing e-journals.
- To find out various problems that hinder students for using electronic journals.
- To list suggestions made by students
- Library's efforts to make hassle-free access to electronic contents.

### Scope of the Study

A wide range of electronic journals are being subscribed by Panjab University Library and made available to students and faculty members via library portal. The current study intends to assess the access and usage of these electronic journals by post graduate students and research scholars of the university. The study also makes attempt to find out varied problems faced by student while accessing these informational resources that demotivate them for further visiting the library. It also aims to know the orientation and user training provided by university library to make students aware about such online resources.

### Research Methodology

The survey research method is used to attempt this study, as it is most useful method to collect original data from the respondents for further analysis and desired output. A structured questionnaire divided into four major parts, containing 19 questions and a suggestion box is framed as an instrument for data collection and distributed among 135 students of post graduate and Ph.D. courses. The questionnaire distributed to only those students who visited the library for using electronic journals in the digital section of the library. We received 100 filled questionnaires from the respondents with a response rate of 74.07%. The data was analyzed through descriptive statistical methods by using computerized data processing techniques. Subsequently, the data was interpreted and relevant conclusions put forth. The questionnaires were intentionally administered in the month of December, 2014 as it is peak time of library usage. During this time, the students are asked to submit their assignments, prepare for semester-end examinations and to complete Ph.D. coursework.

### Literature Review

**Rajeswari (2005)<sup>3</sup>:** In article "Use of information sources in digital environment-A case study" revealed that majority of the user including faculty members, research scholars and students are using OPAC system in the library and also using INFLIBNET services for accessing e-journals.

**Islam and Panda (2007)<sup>4</sup>:** In their article entitled "Web based Information retrieval trends of researchers" explains that in Indian University, traditional library and printed materials were still more effective to research scholars than web-based Information and resources.

**Madhusudan (2007)<sup>5</sup>:** conducted a survey on "Internet use by research scholars at Delhi University" which reveals that most respondent used search engines more than subject gateways or web directories to locate information.

**Webb (2007)<sup>6</sup>:** In his book "Providing effective library services for research" highlighted that the effective academic library are gateways to academic knowledge through their own collection and by facilitating access to material. In the line with its core purpose, providing effective library services could support the research activities of researchers.

**Bansode and Pujar (2008)**<sup>7</sup>: in their study on “Use of Internet by research scholars at Shivaji University, Kolhapur” found that the research scholars of Shivaji University, Kolhapur use the Internet for their research and communication purposes and more awareness about Internet resources and training needs to be provided by library professionals.

**Khan (2008)**<sup>8</sup>: in his article entitled “Use of e-journals by research scholars at Aligarh Muslim University and Banaras Hindu University” reveals that most of the research scholars are aware of the availability of e-journals and largely use them for reference purpose in their research work. They fully agree that with the usage of e-journals the quality of research work improves with enrichment of appurtenant contents and materials leading to high quality manuscripts. It is however found that lack of training is the obstacle in proper and full utilization of e-journals.

**Verma (2008)**<sup>9</sup>: in their study on “Use and impact of electronic journals in the Indian Institute of Technology, Delhi” found that the usage of e-journals is increasing due to awareness among the users about the library’s e-resources and services. Owing to an easy access available at various places in the institute, users are accessing these resources at hostels and departments more as compared to the library. The users’ visits to the library are decreased.

**Kaur and Verma (2009)**<sup>10</sup>: in their paper “Use of electronic information sources in Thapar University” showed that maximum number of user are accessing e-resources for their educational purpose. The impact of e-resources is visible from the decreased usage of printed journals in comparison to increase in number of electronic journals in the library.

**Patterson (2009)**<sup>11</sup> in his study “Research support through resource sharing: challenges and opportunities for Irish academic libraries” indicated that academic libraries play a significant role in facilitating research, the overall support of academic libraries for research was not strategic. Instead of developing an extensive research collection, the libraries relied heavily on inter-library loans to support research.

**Madhusudan (2010)**<sup>12</sup> in his article titled “Use of electronic resources by research scholars of Kurukshetra University” concluded that electronic resources had become an integral part of information needs of research scholars there. Further, he found that e-resources can be good substitute for conventional resources. The study suggested that more computer terminals should be installed for fast and easy access to e-resources.

**Thanuskodi and Ravi (2011)**<sup>13</sup> in their paper titled “Use of digital resources by faculty and research scholars of Manonmaniam Sundaranar University, Tirunelveli” discussed the utilisation of digital resources by faculty and research scholars of Manonmaniam Sundaranar University, Tirunelveli. Results show that 67.14% of the faculty is familiar with the use of digital resources, and majority of these members are using digital resources for research purpose. Study also reveals that majority of the faculty members are learning the required skills for the using digital resources through self-study. Majority of the faculty members and research scholars (55.71 %) felt that the information available in the digital resources is always adequate.

### **Data Analysis and Interpretations**

The necessary information generated from data analysis is presented in tabular form with interpretations given below;

- **Distribution of Respondents by Gender**

The Table 1 below shows that 75% male and 25% female respondents participated in the survey. It is revealed

that largely male students use the electronic journals than female students.

**Table 1: Distribution of Respondents on Basis of Gender**

Gender of Respondents	Frequency	Percentage (%)
Male	75	75
Female	25	25
<b>Total</b>	<b>100</b>	<b>100</b>

- **Distribution of Respondents by their Program of Study**

The Table 2 below indicates 66 post graduate and 34 Ph.D. research scholars participated in the survey. The result shows that library's digital section is mostly visited by post graduate students as they are more in number in the university.

**Table 2: Distribution of Respondents by their Program of Study**

Program of Study	Frequency	Percentage (%)
Post Graduate students	66	66
Ph.D. students	34	34
<b>Total</b>	<b>100</b>	<b>100</b>

- **Distribution of Respondents by their Age Group**

In Table 3 the age of respondents are divided into five age groups. Table shows that majority (60%) of users belong to the age group 22-25 followed by 22% users belong to the age group 26-29 years. 16% users fall under the age group 18-21 and 01% each in the age group 30-33 and 34-37.

**Table 3: Age Group**

Age Group in years	Freq. of PG Student	Freq. of Ph.D. Student	Percentage%
18-21	16	00	16
22-25	43	17	60
26-29	07	15	22
30-33	00	01	01
34-37	00	01	01
<b>Total</b>	<b>66</b>	<b>34</b>	<b>100</b>

- **Usage of Electronic Journals**

Table 4 indicates the usage of Electronic Journals of PU library. Largely 64% users comprising 41 post graduate and 23 Ph.D. students daily use the Electronic journals for their studies and research work, 31% users visit library 2-3 times a week to use E-journals. 3% users visit digital section for once in a week and only 2% user occasionally use the Electronic journals in the library.

**Table 4: Usage of Electronic Journals**

Frequency	Freq. of PG Student	Freq. of Ph.D.	percentage%
Daily	41	23	64
2-3 times in a Week	21	10	31
Once in a Week	02	01	03

Occasionally	02	00	02
<b>Total</b>	<b>66</b>	<b>34</b>	<b>100</b>

- **Purpose of Using Electronic Journals**

Table 5 below illustrates the purpose of using Electronic Journals by student community. It shows that maximum users (69%) use these resources for making class assignments and making notes for coursework of Ph.D. program. 51% respondents use electronic journals to find some particular information. 46% respondents are working on some research project or course and they use E-journals for their research work. There were 34% respondents who use E-journals to keep themselves updated and also to keep watch on recent developments in their concerned field of study

**Table 5: Purpose of using Electronic Journals**

Purpose of using E-journals	Freq. of PG Student	Freq. of Ph.D. Student	Percentage%
To keep updated in related subject field	14	30	34
To find specific information	28	23	51
To make assignments/coursework	37	32	69
To use resources for research work	12	34	46

- **Location of Accessing Electronic Journals**

The electronic journals subscribed by Panjab University library can be accessed within the campus as they are IP authenticated. As the university provides Wi-Fi enabled network within the campus, so these journals can be accessed from any point of location. Knowing this, we still wanted to enquire about the location or the access point being used by students to explore these online journals. Table 6 below shows that maximum students (78%) access these e-journals from library, 40% access them from the departments. Whereas 38% access them from alternate locations and only 35% access them from hostels.

**Table 6: Location of Accessing Electronic Journals**

Access Point	Freq. of PG Student	Freq. of Ph.D. Student	Percentage%
Library	51	27	78
Hostels	23	12	35
Departments	18	22	40
Alternate locations	20	18	38

- **Students' Ease of Accessing Electronic Journals**

It is clear from Table 7 that 63% of student population stated that library provides easy access to E-journals, while 37% submitted that they do not get easy access to the electronic journals. The study shows that ease of access may further encourage students to use library's e-resources more frequently.

**Table 7: Students' Ease of Accessing Electronic Journals**

Easy Access of E-Journals	Freq. of PG Student	Freq. of Ph.D. Student	Percentage%
Yes	43	20	63
No	23	14	37
<b>Total</b>	<b>66</b>	<b>34</b>	<b>100</b>

- **Problems Encountered While using the Electronic Journals**

Table 8 below shows the probable problems encountered by respondents while using the electronic journals inside the library premises. 87% respondents indicated that time constraint is biggest problem while using the electronic journals as they get limited time to access them. 62% respondents showed their concern about non-availability of useful instructions to the reader. 61% users stated that less number of computer systems and waiting for their turn for long hours make them discourage for using resources. 50% users said that poor bandwidth problem is a major cause of less visits by them. 47% respondents also felt that unskilled staff is also a problem to them as they not able to help them when required and some 31% respondents witnessed the technical problem related to system and hardware while accessing electronic journals.

**Table 8: Problems Encountered while Using the Electronic Journals**

Problems Encountered	Freq. of PG Student	Freq. of Ph.D. Student	Percentage%
Time constraint	58	29	87
Unskilled staff	26	21	47
Inadequate computers	59	28	61
Non-availability of instructions	45	17	62
Poor Internet bandwidth	38	12	50
Technical problems	22	09	31

- **Respondent's Satisfaction with the Existing Electronic Journals Subscribed by PU library**

The Table 9 shows that out of total response 57% respondents are fully satisfied with the available electronic journals collection. 41% respondents are partially satisfied and want improved IT infrastructure to access e-resources, whereas only 3% are dissatisfied with available collection e-journals and IT infrastructure for accessing these in library

**Table 9: Respondents Satisfaction with the Existing Collection of Electronic Journals**

Response	Freq. of PG Student	Freq. of Ph.D. Student	Percentage%
Fully Satisfied	40	17	57
Partially Satisfied	25	16	41
Dissatisfied	01	01	02
<b>Total</b>	<b>66</b>	<b>34</b>	<b>100</b>

- **Respondent's Satisfaction with the IT Infrastructural Facilities**

The following Table 10 illustrates the Respondent's satisfaction with the IT infrastructural facilities provided by Panjab University Library. It reveals that 72% respondents are satisfied and 28% respondents are not satisfied with the available IT infrastructure of the library.

**Table 10: Respondent's satisfaction with the IT infrastructural facilities**

Satisfied with IT Infrastructural Facilities	Freq. of PG Student	Freq. of Ph.D. Student	Percentage%
Yes	47	25	72
No	19	09	28
<b>Total</b>	<b>66</b>	<b>34</b>	<b>100</b>

### Survey Findings

Keeping in view the provision of electronic journals in the library, the above study of 'Access and Usage of



Electronic Journals by the Students of Panjab University, Chandigarh' has exemplified some key findings;

- Majority of the respondents (66%) were in the age group of 22-25. It is found that students of PG programs and Ph.D. scholars have specific informational requirement which are being catered by the digital section of the library.
- 61% respondents use electronic journals on daily basis to gain knowledge in their respective field of study. That means the library's learning environment is suiting to the users to a great extent and encourages them to utilize library resources.
- Most of the respondents (69%) use electronic journals to make assignment and complete research project on some specific subject field. While 51% use them for finding particular information.
- It is found that 63% of respondents are satisfied with the library's efforts for providing easy access to E-journals, while 37% submitted that they do not get easy access to the electronic journals.
- As many as 87% respondents submitted that time duration for accessing e-journals is quite less and it should be positively increased. On the other hand 62 respondents think that lack of displayed instructions inside the digital library choke them to use e-journals. Some other problems faced by respondents were; less number of computer system, low Internet bandwidth and non-availability of professional staff on duty.
- 57% respondents found satisfied with the available electronic journals collection. 41% respondents were partially satisfied and want improved IT infrastructure to access e-resources. So largely respondents were satisfied the collection of online journals.
- In case of available IT infrastructure, 72% respondents shown their satisfaction, but at the same time they expect to have more computers with improved Internet bandwidth in coming future.

## **CONCLUSIONS AND RECOMMENDATIONS**

The findings of the study reveal that electronic journals are very important source of information for the students and there is good use of electronic journals in Panjab University Library. The students of PG programs and Ph.D. research scholars are quite encouraged and seriously using electronic journals subscribed by library. However there are some problems which hinder them to have fair access to these resources, such as; limited time to use resources, less number of computer systems, low Internet bandwidth and lack of instructions for the users. The following recommendations are suggested to improve the infrastructural facilities of digital section of PU library;

- Library needs to create improved IT infrastructure for better access of online resources,
- Wi-Fi bandwidth should be increased,
- User training program should be organized on regular basis and they should also be included in course curriculum to equip students for necessary information regarding library's online resources.
- The list of subscribed packages with instruction should be displayed at different corners in the library.
- Professional and learned staff should be appointed in digital section of library to answer the queries of the students.

The shift from print journals to electronic journals is inevitable. The student's expectations are ever growing. Hence it is a challenge for number one ranked Panjab University to create and offer world-class academic environment to the students. A special attention is required to be given to library and its inner infrastructure. Lets' hope that in coming days we'll see a better delivery of online resource of PU library by incorporating the suggestion made in this study.

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