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Awareness and Use of e-Resources at Chandigarh College of Architecture, Chandigarh, India: A Study

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Abstract

This paper is an attempt to study the awareness and use of e-resources among the students at Chandigarh College of Architecture, Chandigarh, India. For the present study, survey method has been adopted using questionnaire as a data gathering tool. Copies of self designed questionnaire were distributed online through e-mail/WhatsApp to the 150 students during February-March, 2021. Out of total 150 administered questionnaires, 127 completely filled questionnaires were received back and found valid for analysis. The response rate is achieved @84.66 percent. The study revealed that more than 90 percent of the respondents were aware about the use of electronic resources and currently using in their academic and research work. About 46 percent of the respondents were preferred to use only e-resources, while 31 percent of the respondents were preferred to use both printed as well as e-resources equally. 93 percent of the respondents were using e-resources particularly to collect the information for paper publishing, while more than 95 percent respondents were satisfied with the use of e-resources in their academic and research related work. The study also found some problems faced by the respondents such as downloading speed, searching e-contents, and lack of ICT skills. Concluded with the suggestion that proper training programs should be organized on regular basis so that most of the students would learn how to search and use e-resources effectively in their academic and research work.

Keywords: Case study, Awareness, ICT literacy, Internet usage, Usage of e-resources, e-Resources, Chandigarh College of Architecture, Chandigarh.

1. Introduction

Due to rapid development in the field of Information Communication and Technology (ICT), revolutionary changes have been noticed in every walk of life. Similarly, Information Communication and Technology (ICT) have brought ground-breaking changes in information handling, processing and disseminating to the right users at right time. In this digital era, now e-resources or digital contents became the most important for every type of users. Modern libraries are now trying to procure more and more information resources in digital format to satisfy the students, teachers, scientists, and researchers' different information needs within shortest possible time. From the in-house activities to the services at door step have totally been changed due to wide use of computers and other ICT applications in library and information centres. Now, computers are become an essential tool for retrieving information anytime, anywhere and by anyone. Information demands of users have also been changed due to wide impact of ICT, hence, they need their desired information within shortest possible time at their place of convenience in preferred format. Due to changing scenario worldwide, electronic books, electronic journals, and electronic databases are become essential to procure in the libraries. The worth of e-resources increased due to the features of easy to store, retrieve, and use.

The field of architecture has also been affected by Information Communication and Technology (ICT). The demands of architectural students regarding information resources are now shifted from print to electronic format so libraries of architectural institutions have now forced to procure more and more electronic information resources so that utmost satisfaction of users could be achieved. Therefore, researchers feel that there is a need to study the awareness and use of e-resources at Chandigarh College of Architecture, Chandigarh, which is a renowned institution in the region. The results of the study could reveal some interesting facts, which can be used for enhancement of quality of library services and satisfaction of future architectures.

2. Chandigarh College of Architecture- A brief sketch

"The Chandigarh College of Architecture was established as part of the 'Chandigarh Project'– the most significant and daring experiment in architecture and urban planning of the 20th century. The College is a premier institution of the country for imparting architectural education at the national, regional and city level. The college has been rated amongst the top 3 architectural institutions in the country since 2012 onwards. The Chandigarh College of Architecture (CCA) was established on 7th August 1961 at the behest of Le Corbusier. It offers

a Bachelor of Architecture programme of five years duration with an annual intake of 40 students every year. The college is affiliated to Panjab University, Chandigarh and its B.Arch., M.Arch courses are approved by the Council of Architecture, India and the All India Council for Technical Education, India. The Chandigarh College of Architecture also offers a full time (two year) M.Arch. course duly approved by Panjab University, Chandigarh. Another side, the library of Chandigarh College of Architecture has centrally air-conditioned with approximate 28,300 books in architecture & related fields and regular subscription of 53 national and international journals, K-Hub database for e-journals, e-magazines and e-books, and 1950 bound periodicals that provide adequate and sufficient reading material to the students". (CCA, 2021).

3. Literature review

There are number of studies on the awareness and use of e-resources conducted in past, but this is the first study of its kind related with the architectural institutions particularly in Northern India. It is not possible to include all the studies here; however, some of the relevant studies have been reviewed as follows:

Burhansab, Batcha, & Ahmad (2020) investigated "awareness and usage of electronic resources in selected colleges of Solapur University and revealed that e-resources awareness and use was very common among library users because e-resources are very easy to use, retrieve and store, while researchers suggested that training on advanced search strategies, controlled vocabulary and general Internet use for scholarly and academic purposes should be organize to make electronic search processes much easier". In an another study conducted by Girakaduwa (2019) on "usage of electronic resources, services and challenges faced by the library users in University of the Visual and Performing Arts (UVPA), Sri Lanka and revealed that the majority of library users were aware of the e-resources and services provided by the library and mostly users used library web resources, OPAC and past exam paper downloading facility, while lack of infrastructure facilities, lack of user education and user awareness programs, English language barriers, and lack of IT skills were some of the factors, which restricted the use of e-resources among the library users". During the study on perceptions and expectations of academic and research fraternity towards usefulness of e-journals at Uttar Banga Krishi Viswavidyalaya, Cooch Behar, India, Neogi and Bhanu Partap (2019) revealed that cent percent users were using e-journals for writing research articles and 83.13 percent respondents were using e-journals to prepare reports or presentations 'for seminars and conferences', whereas, all the respondents

were using Consortium for e-resources in agriculture (CeRA) for their academic & research work. In an another study conducted on the use of electronic resources by postgraduate students of the University of Cape Coast, Ankrah, & Atuase (2018) revealed that "most of the postgraduate students were aware of the e-resources in the library; however, e-resources were not fully utilized by the respondents because of low publicity, inadequate training, restrictions of access such as passwords and usernames, and other limitations such as poor Internet connection, inadequate computers, as well as power outage and inadequate searching skills, which constrained students to depend more on library professionals for their information searches". Siddiqui (2018) conducted a study on the "use of e-resources by the faculty members and students in economics at University of Delhi and found that users in economics were in need of e-resources but due to some issues they were not able to fully utilize the available resources, while some of the factors were also identified during the study by the researchers such as lack of skill to search e-resources, limited access to certain government resources, which discourages users to use e-resources and shows negative impact on access and use of e-resources".

Yadav, Singh, & Verma (2018) conducted a study on "perceptions and use of e-resources by research scholars of Mizoram University, Aizawl and noticed that majority of the respondents (71 percent) were using e-resources for either general study or for research/project work, and about 30 percent respondents were facing the difficulty in finding relevant information, whereas, more than 87 percent respondents were satisfied with the availability of e-resources in the central library". In a study, conducted by Tyagi (2014) on "usage of electronic information resources at pharmacopoeial libraries in India and revealed that 78 percent of the respondents have the ability to use computer for electronic information resources and all the scientists belonging to the pharmacopoeial libraries used electronic information resources to address issues relating to drug indexes and compendia, monographs, drugs obtained through online databases, e-journals, and the Internet sources, especially polices by regulatory agencies, contacts, drug promotional literature, and standards". While conducted a study on use of electronic resources and services by marine scientists in South India, Biradar and Maranna (2012) found that majority of scientists (62.50 percent) use e-resources for professional development, followed by writing research project (55.60 percent), while fast access and delivery of information (88.70 percent), the provision of accurate and current information (79.90 percent), and exploring wide area of information sources nearer to the interested topic (59.80 percent) were the reasons for accessing

e-resources for majority of respondent's. Habiba, & Chowdhury (2012) conducted a study on "use of electronic resources and its impact at Dhaka University Library (DUL) and noticed that majority of the users of DUL use e-resources for their learning purpose and were quite satisfied with e-resources, whereas, it was also observed by the researchers that there is some lacking in infrastructure facilities at Dhaka University Library and also suggested that more training programs should be organize so that sophisticated searching and retrieval skills can be enhanced among all categories of the users". During the study, conducted on the "use of e-resources by the students and researchers of faculty of arts, Annamalai University, Thanuskodi (2012) explored that about to 48 percent of the respondents wanted to access only electronic resources and about to 38 percent respondents wanted to read the printed resources, while the researcher has observed that majority of the respondents were not satisfied with the availability of enough e-resources in their respective subject, followed by coverage of e-resources was not suited to research areas of students, time consuming, no assistance provided by the information professionals and lack of training".

4. Objectives

The main objectives of the present study are:

- To find out the awareness and use of e-resources among the architectural students
- To determine the usefulness of e-resources among the architectural students
- To find out the purpose of using e-resources by the architectural students
- To evaluate the importance of using e-resources in academic and research work
- To find out the frequency of usage of e-resources
- To explore the purpose for which the architectural students use the e-resources
- To ascertain the satisfaction level among the architectural students about the use of e-resources
- To investigate the various factors responsible for using electronic resources by the architectural students
- To examine the various problems faced by the architectural students, and to give suggestions for improvement.

5. Scope and limitation of the Study

The scope of the present study is limited to evaluate the utilization of e-Resources by the undergraduate architectural students of Chandigarh College of Architecture, Chandigarh, India. Furthermore, the study also explores various problems faced by the architectural students, which hinders the use of electronic resources.

6. Research methodology

A "methodology helps to understand not only the products of scientific inquiry but the process itself". This study adopts the survey method. Questionnaire from undergraduate students were used to elicit information. For data collection, the copies of systematic designed questionnaire, which includes both open-ended and close-ended questions, were distributed online through e-mail/WhatsApp to the undergraduate architectural students during February-March 2021. Total 150 questionnaires were distributed, out of which, 127 questionnaires were received back with overall response rate @ 84.66 percent. The collected data were then analysed and interpreted accordingly the aims and objectives of the research study with simple percentage analysis. The citation standard used for giving citations & references and for the compilation of bibliography will be APA 7th edition.

7. Data analysis and interpretation

The collected data were arranged and interpreted in the following tables:

Table 1: Awareness about e-resources

Awareness	Respondents	Percentage
Fully aware	42	33.08
Aware	73	57.48
Somewhat aware	12	09.44
Not aware	00	00
Total	**127**	**100**

The awareness about e-resources among the respondents is presented by the data given in the above Table 1, which reveals that 57.48 percent of the respondents were aware to the e-resources and using for their academic and research work. On the other hand, 33.08 percent respondents were fully aware to the use of e-resources, followed by 9.44 percent respondents who were responded that they were somewhat aware to the use of e-resources. The analysis shows that majority of the respondents were aware about the use of electronic resources and currently using in their academic and research work.

Table 2: How did you come to know about e-resources?

Sources of awareness	Respondents	Percentage
Fellow students	28	22.06
Teachers	52	40.94
Library staff	21	16.53
Social media	19	14.96
Others	07	05.51
Total	**127**	**100**

The data presented in the above Table 2 indicate that 40.94 percent of the respondents were learned about e-resources from their teachers, whereas, 22.06 percent respondents were acquainted with the e-resources from their fellow students. On the other hand, 16.53 percent of the respondents were come to know about e-resources from library staff, followed by social media (14.96 percent) and other sources (5.51 percent) respectively.

Table 3: Which resource of information is useful for you?

Resources of information	Respondents	Percentage
Printed	28	22.05
Electronic	59	46.45
Both equally	40	31.50
Total	**127**	**100**

The respondents were asked which resource of information is useful to them. 46.45 percent of the respondents were preferred to use electronic information resources, while 22.05 percent respondents were preferred to use printed information resources as per the collected data reflected in Table 3. On the other hand, 31.50 percent of the respondents were preferred to use both printed and electronic resources equally in their academic as well as research work. The analysis shows that most of the respondents were preferred to use electronic information resources, however, printed information resources still have potential as used equally by the respondents.

Table 4: How do you find using e-resources?

Ease of use	Respondents	Percentage
Easy	118	92.91
Difficult	09	7.09
Total	**127**	**100**

The respondents were asked how they find using e-resources. The data given in Table 4 reveals that a big majority of the respondents (92.91 percent) were feels easy to use e-resources, while

only 7.09 percent respondents were find difficult to use. Therefore, the analysis shows that this is the era of electronic information resources because of easy to explore, use, save for future and taking less time.

Table 5: How often do you use e-resources in library?

Frequency of using e-resources	Respondents	Percentage
Everyday	21	16.55
Weekly	47	37.00
Fortnightly	39	30.70
Monthly	20	15.75
Total	**127**	**100**

The data presented in Table 5 highlights the frequency of use of e-resources in library by the respondents. It was found from the study that 37 percent of the respondents were using e-resources in library once in a week, whereas, 30.70 percent respondents were using once in a fortnight, followed by everyday (16.55 percent) and monthly (15.75 percent) respectively. The analysis shows that most of the respondents were preferred to use e-resources in library premises either on weekly or on fortnightly basis.

Table 6: Purpose of using e-resources

Purpose*	Respondents	Percentage
Study	35	27.55
Research work	107	84.25
Class assignment	22	17.32
Project work	88	69.30
Paper publishing	118	92.91

** Multiple answers permitted*

Table 6 shows the various purposes of using electronic information resources among the respondents. A big majority of the respondents, *i.e.*, 92.91 percent use e-resources to collect the information for paper publishing, whereas, 84.25 percent of the respondents use e-resources for the purpose of research work. On the other hand, 69.30 percent of the respondents use e-resources for their project work, while 27.55 percent respondents use e-resources for just study purpose and enhancing their subject knowledge, followed by class assignment (17.32 percent). The analysis shows that most of the respondents were using e-resources for their research work, which includes paper publishing as well.

Table 7: How important e-resources are for your study?

Importance of e-resources	Respondents	Percentage
Most important	45	35.43
Important	61	48.03
Neutral	14	11.02
Not important	05	03.94
Least important	02	01.58
Total	**127**	**100**

The respondents were asked to indicate their importance towards the usefulness of e-resources in their academic as well as research work. The presented data in Table 7 shows that e-resources are important for 48.03 percent respondents, while 35.43 percent of the respondents said that e-resources are most important for their academic and research work in this electronic era. On the other hand, 11.02 percent of the respondents were neutral on the question of importance of e-resources, followed by not important (3.94 percent) and least important (1.58 percent) respectively. The above analysis shows that e-resources have importance for the study for more than 80 percent respondents.

Table 8: How satisfied are you with the e-resources you use?

Level of satisfaction	Respondents	Percentage
Highly satisfied	79	62.20
Satisfied	43	33.86
Neutral	05	03.94
Dissatisfied	00	00
Highly dissatisfied	00	00
Total	**127**	**100**

The presented data in Table 8 shows the satisfaction level of respondents towards the use of e-resources. The options such as highly satisfied, satisfied, neutral, dissatisfied and highly dissatisfied were given. It was found from the study that 62.20 percent of the respondents were highly satisfied with the use of electronic resources, whereas, 33.86 percent respondents were marked as satisfied. On the other hand, a very small portion (3.94 percent) of the respondents was neutral on the question about satisfaction towards the use of e-resources. The analysis shows that a big majority of the respondents were satisfied with the use of e-resources to collect the required information for their academic and research related work.

Table 9: Where do you mostly access required information?

Information sources	Respondents	Percentage
E-books	11	08.66
E-journals	47	37.00
Online databases	40	31.50
Direct from search engines	29	22.84
Total	**127**	**100**

The respondents were asked where they mostly accessed their required information. As the data reflected in the above Table 9, it was noticed that 37 percent respondents were using e-journals to get their required information, while 31.50 percent of the respondents were using online databases, and 8.66 percent respondents were accessing e-books for their required information. On the other hand, 22.84 percent of the respondents were getting their desired information directly from search engines.

Table 10: Factors responsible for using e-resources

Factors*	Respondents	Percentage
Less time in search	77	60.62
Easy accessibility	89	70.08
Easy to store and retrieve	95	74.80
24x7 use facility	127	100

** Multiple answers permitted*

The presented data in Table 10 highlights the various factors, which are responsible for using electronic information resources by the students. It is evident from the data given in above Table 10 that 74.80 percent of the respondents were preferred to use e-resources due to advantage of easy to store and retrieve, while 70.08 percent respondents use due to its easy accessibility, followed by less time in search (60.62 percent). Another side, all the respondents replied that they preferred to use e-resources because they can access e-contents round the clock from anywhere anytime as per their convenience.

Table 11: Main problems faced while using e-resources

Problems*	Respondents	Percentage
Lack in skills in using ICT applications	44	34.64
Difficult to read from the screen	56	44.10
Problems in downloading	70	55.12
Problems in searching	62	48.82
Reading habits affected	36	28.34

** Multiple answers permitted*

The data given in Table 11 highlights the main problems faced by the respondents while using e-resources. It was found from the study that more than half of the respondents (55.12 percent) were facing the problems in downloading the e-contents, whereas, 48.82 percent respondents were facing the problems in searching the e-contents. On the other hand, 44.10 percent of the respondents were find difficulty to read the contents from the screen, followed by 'lack in skills in using ICT applications' (34.64 percent) and 'reading habits affected' (28.34 percent) respectively.

Table 12: What kind of training you need in connection with the use of e-resources?

Training needed	Respondents	Percentage
ICT training	33	25.98
Resource specific training	49	38.58
Discipline specific training	16	12.60
Internet specific training	19	14.96
Do not need any training	10	07.88
Total	**127**	**100**

The respondents were also asked that what kind of training they need so that they can use e-resources in better way. The presented data in Table 12 reveals that 38.58 percent of the respondents were in need of resource specific training, while 25.98 percent respondents were shown their interest in ICT specific training. On the other hand, 14.96 percent of the respondents were need Internet specific training so that they can learn how to search required information efficiently, followed by 'discipline specific training (12.60 percent). However, there are some (7.88 percent) respondents found during the study who replied that they do not required any training as they can learn own their own.

8. Summary of major findings

Summary of major findings of the study are as follows:

- ✓ More than 90 percent of the respondents were aware about the use of electronic resources and currently using in their academic and research work.
- ✓ About 41 percent of the respondents were learned about e-resources from their teachers, while 22 percent respondents were acquainted with the e-resources from their fellow students.

- ✓ About 46 percent of the respondents were preferred to use only e-resources, while 31 percent of the respondents were preferred to use both printed as well as e-resources equally in their academic and research work.
- ✓ More than 92 percent of the respondents were finding that e-resources are easy to use.
- ✓ E-resources were using once in a week by 37 percent of the respondents, while 31 percent of the respondents were using once in a fortnight.
- ✓ About 93 percent of the respondents were using e-resources particularly to collect the information for paper publishing, whereas, 84 percent of the respondents use e-resources for the research work and 69 percent respondents use e-resources for their project work.
- ✓ 48 percent of the respondents said that e-resources are important, while about 35 percent respondents said that e-resources are most important for their academic and research work.
- ✓ A big majority of the respondents (more than 95 percent) were satisfied with the use of e-resources in their academic and research related work.
- ✓ About 37 percent of the respondents were using e-journals to get their required information, while more than 31 percent respondents use online databases.
- ✓ More than 74 percent of the respondents were preferred to use e-resources due to advantage of easy to store and retrieve and easy to accessible.
- ✓ 55 percent of the respondents were facing the problems in downloading the e-contents, whereas, about 49 percent respondents were facing the problems in searching the e-contents.
- ✓ More than 39 percent of the respondents were in need of resource specific training, while about 26 percent respondents were shown their interest in ICT specific training.

9. Suggestions

Based on the findings, it can be suggested that more focus should be given to acquire quality electronic information resources particularly e-books and e-journals by the institution for the use of architectural students. Furthermore, proper training programs should be organized on regular basis so that most of the students would learn how to search and use e-resources effectively in their academic and research work. Library staff must be motivated by the institution’s authority so that they can serve the users with utmost satisfaction.

10. Conclusion

The present study was conducted with the objective to know the trends in use of e-resources by the architectural students at Chandigarh College of Architecture, Chandigarh, India. In this rapid changing learning environment, most of the respondents who were participated in this survey are aware of electronic information sources and well versed in using computers and Internet. It is apparent from the study that majority of architectural students use e-resources in support of their academic and research work particularly for writing research papers and other course related research work. Some of the problems have also been identified during the study, which are facing by the respondents like slow downloading speed, searching problem, lack of skills in using ICT, *etc*. So, it is absolute necessary to enhance the bandwidth of the Internet connection so that seamless access to the global knowledge resources can be ensured. Training or orientation programs should be included in their program of study so that students can get updated themselves about the e-resources and can upgrade their skills in using ICT as well as Internet searching. Therefore, it can be concluded that trend or usage surveys must be conducted on regular basis in any institution so that lacunas could be find so that improved services could be provided to the users and utmost users' satisfaction could be achieved.

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