

Effective Use of Open Access Journals by Engineering PG Students and Faculty Members in Bangalore City : A Study

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Abstract

Open access ensures equal access to knowledge and enables everyone to contribute to enriching human knowledge. This survey attempts to understand the awareness and use of open access journals among postgraduate (PG) engineering college students and faculty members. A well-structured questionnaire was used to elicit the data from the respondents. Total of 180 questionnaires has been distributed and 163 filled-in questionnaires were received back with a response rate of 90.56%. Further, the study suggests that for an effective use of open access journals, the libraries have to arrange awareness programmes.

Keywords: Open access Journals; Engineering PG students; Engineering faculty; User behaviour.

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Introduction

The advancement in the field of internet and communication technologies has enabled libraries to provide different ICT based services like – E-mail services, retrieval of online resources, online discussion forums, multimedia, networking, and the internet are the key technologies which are being used for quick access to information. The role of library professionals has been quite challenging in providing scholarly published literature to the user community in the digital era, since the subscription rate of the journals has increased continuously and institutions are no longer in a position to afford subscriptions to all of the journals to fulfill academic needs and also limited access to the online scholarly literature resulted in open access initiative in 2002 (Chan *et al.*, 2002)⁴.

The definition of open access which is widely used comes from the “Budapest Open Access

Initiative (BOAI) and Open Society Institute (OSI, 2004)”. Open access allows unrestricted availability on the public internet, allowing any user to read, download, copy, distribute, print, search, or link to the full texts of these articles. It also allows them for indexing, pass them as data to software, or use them for any lawful purpose without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Open access also allows easy retrieval and dissemination of electronic resources on the web.

Objectives of the study

Know the awareness of open access journals among the PG Students and Faculty Members of Engineering College Libraries in Bangalore City.

Assess the variety of open access journal platforms available for use.

Identify the usage and benefits derived through open access journals.



Identify the problems faced by the respondents in the use of open access journals.

Review of Literature

Bala, Bansal, Veterinary, & Sharma, 2018³ explores the usage of open access resources by 83 researchers of various streams in Punjab Agricultural University, Ludhiana. 33(39.76%) of the researchers used open access resources for coursework and research work, 42(50.60%) of the researchers used open access resources because they were available free of cost.

Aiyebilehin, Idhalama, & Adoyi, 2017¹ conducted a survey to investigate the awareness and use of open access journal by 213 LIS UG students in Ambrose Alli University, Ekpoma, Nigeria. Further, the authors revealed that there is a low level of awareness about open access journals and used them to search relevant literature and download articles. The authors found that the major barrier for use of open access journals is the lack of search techniques and the access to limited computers among the respondents, a study by Sellan & Sornam, 2017¹⁵ noted that the Google search engine is the best source for learning about various open access e-resources.

Santhi, 2016¹⁴ highlighted the awareness among the faculty members of 4 engineering colleges, Puducherry. Findings revealed that majority of the faculty members are aware of subject wise open access journals covered in DOAJ, but faced some problems in using open access journals like insufficient search ability, low subject coverage, and non-availability of full-text literature.

A survey study conducted by Veena, 2016¹⁶ focuses on the utilization of e-resources by 152 postgraduate students of Mangalore University using the questionnaire as the data collection tool. Open access e-resources are used for the study and to support research work/projects. Further, the author suggests that the university library arranges various awareness programs to enhance the use of open access e-resources.

Okore & Anaehobi, 2015¹¹ conducted a survey of the scientists of agricultural research institutes in Edo State, Nigeria to determine the awareness of open access electronic resources. The authors found that scientists are fully aware of Open access resources but are more reliable on traditional books and journals for their research. The authors recommend institutes to organize workshops and seminars to inform the relevance of using

OA resources. A similar study was carried out by Oyedipe Janet, 2017¹² in which a survey was conducted to examine the awareness and usage among the Nigerian faculty in Arts and Education. The authors found that the source of awareness for open scholarly literature was through self-exploration for 42(77.8%) of the lecturers, followed by 26(48.1%) of them choosing to publish their scholarly publications in open access model.

Prince & Saravanan, 2015¹³ revealed that 322(33.9%) of the respondents in higher educational institutions of Kanyakumari district has a high level of perception towards open access resources and used them to fulfill their information needs. Kaba & Said, 2015⁶ highlights that respondents used open access resources for learning, teaching and research activities. It was observed that 91% of the respondents use 13 open access resources listed out by the authors.

Aragudige & Vasanthakumar, 2014² highlight the effects of open access journals in technological and engineering institutions. At present, open access journals has less impact when compared to commercial publishers who have a better reputation within the scholarly community and huge dependency on these electronic resources by the users. On the other hand, Mammo & Ngulube, 2015⁷ indicate that open access is used as an alternate method over conventional journals and it has adequate standards. Open access can overcome the serial crisis and enables access to scientific literature. Mohammed & Garba, 2013⁹ found that 62(65.3%) of the majority of the respondents are aware of OA resources through internet channel, followed by 17(17.9%) of the respondents refer to Directory of Open Access journals. 91(95.8%) of the respondent found OA thesis and dissertation helpful, 71(74.7%) respondents found that irrelevant information/information overload is one of the major problems.

Ivwithreghweta & Onoriode, 2012⁵ in their study found that 85(61%) of respondents are not aware of the presence of open access journals. Further, the authors recommend that department heads should create awareness through workshops/conferences. Obuh & Bozimo, 2012¹⁰ examines publications of 114 LIS lecturers published in open access platform. Further, the authors reveal that the respondents should be made aware of concepts, technologies, and techniques involved in open access. The authors recommend the university management to formulate the existing policies that enable the lecturers to publish their intellectual content in open access.

Meera & Ummer, 2010⁸ compiled a list of open access journals on selected topics to enable visibility

and identified that DOAJ and J-gate are the open access platforms for journal articles in any subject irrespective of geographical barriers.

Methodology

The researcher has adopted a survey method for this study to collect primary data from targeted users. A well-structured questionnaire was developed and distributed among the respondents of selected engineering college libraries in Bangalore. The researcher has personally visited the engineering colleges and distributed the questionnaires to the respondents and also used email to administer the questionnaires both to the faculty members and PG students. A total number of 180 questionnaires were distributed among PG students and faculty members. The researchers have taken 15 days of time to collect the filled-in questionnaires from the respondents and received back 163 duly filled questionnaires. The collected data was analyzed using Statistical Package for Social Science (SPSS). Simple frequencies were generated and presented in form of frequency tables.

Data analysis and Findings

The data used for this study are quality oriented as well as quantity oriented. These data was collected from the PG students and faculty members of selected engineering colleges were utilized for the study on quantitative and qualitative basis.

Gender-wise Distribution of the Respondents

Among the 163 responded population, 96(55.33%) respondents are male and 71(44.67%) are female. The study reveals that male respondents are more in number and the female respondents are less in number compared to the male respondents.

Frequency of Library Visit

(Table 1) indicates that 117(71.78%) respondents visit the library daily; 22(13.50%) visited twice a week; 9(5.52%) respondents visited occasionally and 8(4.91%) students expressed that they visit the library as and when the need arises.

Table 1: Frequency of Library Visit

The frequency of library visit	Number of Respondents	Percentage (%)
Daily	117	(71.78)
Twice a Week	22	(13.50)
Fortnightly	7	(4.29)
As and when the need arises	8	(4.91)

Occasionally	9	(5.52)
Total	163	100

Purpose of Visit to the Library

Borrowing and returning of books are the major purpose of 160(98.16%) respondents followed by reading newspapers for 153(93.87%) respondents; 146(89.57%) respondents visit the library to read textbooks; referring to periodicals is one of the purposes of 128(78.53%) respondents; 70(42.94%) respondents refer reference sources; preparing for competitive exams is the purpose of visit for 60(36.81%) respondents. This reinforces the fact that the library is still an avenue where the traditional activities are prominent. The other details are presented in Table 2.

Table 2: Purpose of visit to the Library

Sl. No.	Purpose to visit the college library	Number of Respondents	Percentage (%)
1.	Reading textbooks	146	(89.57)
2.	Reading newspapers	153	(93.87)
3.	Referring Periodicals	128	(78.53)
4.	Barrow and return books	160	(98.16)
5.	Reading reference source	70	(42.94)
6.	Prepare for the seminar	40	(24.54)
7.	Preparing for debates	38	(23.31)
8.	Prepare for competitive exams	60	(36.81)

Awareness of Open Access Journals:

A question has been put to know the awareness of the respondents in open access journals. The results indicated that 100(61.34%) of the faculty are more aware of open access journals compared to 59(36.19%) of the PG students. Awareness of open access journals is on the rise (Table 3).

Table 3: Awareness of open access journals

Awareness of open access journals	Faculty Members	PG Students
Yes	100 (61.34)	59 (36.19)
No	2 (1.22)	2 (1.22)

Access to a Variety of Open Access Journals

Library offers access to a variety of open access journals, a question has been asked to the respondents on the frequently used open access journals. It can be seen that the majority of the respondents used Springer Open 160(98.16%); followed by Elsevier 153(93.87%); 146(89.57%) use IEEE Access; 128(78.53%) use Knimbus; 70(42.94%) use J-Scholar. The results are obvious because

the institute is predominated by engineering and technology program of studies, and hence more faculty members and PG students tend to use Springer Open, Elsevier and IEEE Access. Knimbus and J-Scholar are platforms which provide open access journals and a good percentage of respondent's access open access journals through these platforms too (Table 4).

Table 4: Variety of Open Access Journals

Sl. No	Open Access Journals Platforms	Number of Respondents	Percentage (%)
1	IEEE Access	146	(89.57)
2	Elsevier	153	(93.87)
3	Springer Open	160	(98.16)
4	Knimbus	128	(78.53)
5	J-Scholar	70	(42.94)

Effective Use of Open Access Journals

Questions were administered for the respondents to get the information on the status of usage and benefits of open access journals. The data are presented in Table 5. The results revealed that 110(67.48%) of the faculty members have searched and downloaded the articles from open access journals; followed by 90(55.21%) of the respondents have given links to other related articles on particular subjects; 85(52.14%) of the faculty members found that they have free access to scientific knowledge. 55(33.74%) and 40(24.53%) of the faculty members cite open access journals more frequently and publish their research papers in open access scholarly journals respectively. The data for PG students shows that they are concentrating on their study rather than publishing research articles. This does state that paid access to journals is still predominant in the libraries and encourages the library to continue to subscribe to the required journals.

Table 5: Effective use of Open Access Journals

Sl. No	Open access journals usage	Faculty Members	PG Students
1	Free access to scientific knowledge	85 (52.14)	56 (34.35)
2	Linking of other similar articles on particular subject field	90 (55.21)	63 (38.65)
3	Publish research papers	40 (24.53)	20 (12.26)
4	Searching and downloading articles	110 (67.48)	50 (30.67)
5	Cite open access journals more frequently	55 (33.74)	15 (9.20)

Benefits in Use of Open Access Journals

It is observed from Table 6 that faculty members are more benefitted by using open access journals, since 125(76.69%) of the faculty members have identified that it enhances visibility and the impact of researchers work with increased accessibility followed by 120(73.62%) found that self-archiving is possible through open access journals; 116(71.17%) of the faculty members found that open access journals reduce delay in publication; 55(33.74%) of the PG students are of the opinion that they can access online scholarly literature available free of cost required for academic work; 40(24.54%) and 30(18.40%) of the PG students found that self-archiving and reduction in publication delay respectively are the benefits of OAJ. For the faculty, the primary need is to enhance visibility while publishing open access journals. For the PG students, it's more related to free access for the journals.

Table 6: Benefits of open access journals

Sl. No	Benefits of open access journals	Faculty Members	PG students
1	Provides access to the online scholarly literature free of charge for academic work	62 (38.04)	55 (33.74)
2	Enhances the visibility and impact of researchers work with increased accessibility	125 (76.69)	28 (17.18)
4	Self-archiving is possible	120 (73.62)	40 (24.54)
5	Helps in career development	50 (30.67)	20 (12.27)
6	Reduces publication delay	116 (71.17)	30 (18.40)
7	Results of scholarly research can reach to the wider audience more quickly	82 (50.13)	10 (6.13)

Importance of OAJ for Study/ Teaching

A survey was conducted to receive a user opinion on how important open access journals are for both studying and teaching. 96.93% agreed that open access journals are important for the fulfillment of academic requirements. This concludes that the open access journals continue to play a prominent role during an individual's research requirements (Table 7).

Table 7: Importance of OAJ for Study/ Teaching

Importance of OAJ for Study/ Teaching	Number of Respondents	Percentage (%)
Yes	158	(96.93)
No	5	(3.07)
Total	163	100

Figures in parenthesis indicate the percentage

Awareness of Predatory Journals

It is observed from Table 8 that 55.83% of the respondents are not aware of predatory journals. This calls for awareness of predatory journals, and to ask users to refer to the journal's editorial board, reviewers etc. Also, it awares them of UGC's stand on the same.

Table 8: Awareness of predatory journals

Awareness of predatory journals	Number of Respondents	Percentage (%)
Yes	72	(44.17)
No	91	(55.83)
Total	163	100

Author Pay and other Maintenance Charges:

Table 9 indicates that a majority of 72.39% respondents are not supporting the idea of author pay and other maintenance charges, charged by publishers to the author/s. Since open access journals are open to all, respondents opine that publishers should not demand any charges from the author/s.

Table 9: Other maintenance charges

Maintenance charges	Number of Respondents	Percentage (%)
Yes	45	(27.61)
No	118	(72.39)
Total	163	100

Problems faced while Accessing Open Access Journals

Table 10 reveals that majority of respondents (73.61%) lack training on how to access open access journals, followed by respondents who have irrelevant information (69.93%) and 69.32% do improper archiving of open access journals. The respondents indicated the absence of knowledge on the existence of open access journals and lack of searching techniques as one of their problems.

Table 10: Problems faced while accessing open access journals

Sl. No	Problems faced while accessing open journals	Number of Respondents	Percentage (%)
01	The absence of knowledge on the existence of open access journals	102	(62.57)
02	Lack of searching techniques	80	(49.07)
03	Lack of training/guidance	120	(73.61)

04	Irrelevant information	114	(69.93)
05	Improper Archiving of some open access journals	113	(69.32)

Conclusion

Open access journals are used in institutes where they cannot offer access to subscription-based journals. Libraries need to focus on Return on Investment policy, through which they can provide access to various open source electronic resources which are more effective for the user community to enhance their knowledge. The study suggests that parent institutions offering academic courses along with their libraries should arrange more effective awareness programs to educate the academic fraternity in making use of different open access journals.

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