IMPACT OF ELECTRONIC INFORMATION RESOURCES ON USERS OF SELECTED ENGINEERING COLLEGE LIBRARIES OF ODISHA, INDIA

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ABSTRACT

The present study explores the impact of electronic information resources among the users of engineering college libraries. This study collected all required information through a survey method by administering a structured questionnaire. A total of 549 users from 34 engineering colleges participated in the study. The major findings of the current study shows that, due to the emergence of e resources, more than 80 per cent users are keeping themselves up to date with information. The learning-teaching efficiency of the student as well as faculty has increased due transition from print to electronic information resources. Similarly, 74 per cent users said, access to amount of information sources, efficiency in accomplishment of academic assignment and research & publication activities have increased due to transformation from print to electronic resources. According to most of the users, all types of e-resources, specifically E-Journals and E-Books have a high impact on the teaching and learning process. The study results also reveal that, 82 per cent prefer the electronic resources due to its easy accessibility and 64 per cent prefer the print resources because it is easy to read. Again, more than 80 per cent users agree that, electronic resource give huge amount of information and easy to manage by adding book marks and notes.

Key words: Electronic Information Resources, Engineering College libraries, Impact of Electronic Resources, Teaching and learning process, Faculty, Student

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1. INTRODUCTION

The Twenty-first century witnessed enormous advancements in the fields of science and technology; there is hardly any discipline which is not influenced by such modern innovations (Vanaja, 2017, p.143).The world of libraries is facing tremendous changes due to the developments in information technology and abundance increase of information. Libraries have transformed into digital and virtual libraries where books, journals and magazines have changed into e-books, e-journals, and e-magazines. This has increased the global dissemination of information (Abinew & Vuda, 2013, pp. 903-910).Electronic resources are some of the most important activities of libraries and they provide excellent opportunities to access scholarly information, which were previously the geographical constraints (Santhi & Jeyachitra, 2014, p.235).The veritable explosion of networked information and the relative ubiquity of computer access have made it possible for the academic community to find and receive a significant amount of information without going to the library (Hiller,2002,pp. 134-139).The present electronic environment has altered the conduct of teaching and learning by allowing the Users of library a wide range of opportunity for accessing accurate and timely information.(Kumar & Bhandi,2016.p.21).E-Resources play a vital role in the field of engineering studies and the user community is becoming more and more familiar with them to access very regularly.(Badhusa & Natarajan, 2014, p.1).As libraries are developing a large web presence, issues regarding the utility, accessibility and usage of their networked resources and services are gaining critical importance (Pulm et. al ,2010,p.184).So the transition of information resources from print to electronic medium has left an impact on library and users' perception as well (tenopir,2003, p.1).

2. REVIEW OF LITERATURE

The literature published directly related to the present study have been reviewed.

Sahu and Basa (2009) explored the usage pattern of the existing electronic information resources and services by the students and found that majority of the students frequently access the subscribed e resources in the library and give utmost preference to internet access for their needs. **Kaur and Verma (2009)** studied the emergent e-libraries/e-journals in IIT, Delhi using the questionnaire method and were of opinion that the facilities of updated e-resources to be provided depending upon needs of the users. **Sahu and Mohapatra (2011)** enquired present status of existing digital library facility in BPUT affiliated engineering colleges in Orissa established up to 2008.**Sahu (2013)** surveyed different skill aspects of staff working in engineering college libraries of Orissa to identify their recent job description, day to day functioning and new knowledge required to sustain in the digital era. **Mendhe,Kamble and Taksande (2013)** reported the intricacies of commonly accepted data base (from *e-resources*) used by the learned faculties of western India. **Das and Choudhury (2014)** ascertained the nature of management of collection in the web scenario and in selected university libraries of Odisha,. **Sarvanan and Esmail (2015)** studied on decadal shift in adaptation of usage of library by the engineering studies from primitive traditional to recent e-resources **Lewis (2016)** endorsed the importance laid by the students/scholars on e-resources and investigated the usage and effect of AICTE and DELNET subscribed e resources in engineering colleges of two different districts of Karnataka state. **Khan et al. (2017)** examined the impact of digital library resources (DLR'S) on academic and engineering research and found significant correlation between the purpose and frequency of their use in Pakistan. **Aravazhi (2017)** described different types of e resources and their impact on library. The study revealed the advantages of space, time, multidimensional and easy to search aspects of electronic environment. **Srivastava and Kumar (2018)** studied the titles of

the high impact factor journals, the numbers of down loads of a material science package ,its impact on users .

It is revealed that no such studies have been conducted on impact of electronic resources on users of engineering college libraries of Orissa so far.

3. STATEMENT OF THE PROBLEM

Despite Engineering college libraries belong to academic library stream, its collection assembled, has been aimed to meet the needs of a particular group of users; limited to a single subject or group of subject or a single format or group of formats. The library is assigned the mission of acquiring, organizing and providing information and knowledge, recording in print and non print form so as to further the goals of its parent organization.

Electronic services are attracting reader attention in today's network environment. This changing scenario in engineering college library environment has arisen to meet the increased information need of the users with adequate access to e-resources backed with the traditional print resources. Electronic resources appear to pose new challenges before the users of library and information science in respect of providing full text access to scholarly publications both in print and electronic versions. The present research, therefore tries to explore the types of electronic information resources; users opinion about it and impact on teaching-learning process.

4. OBJECTIVES OF THE STUDY

- To examine the impact of electronic resources on information seeking behavior and teaching and learning process of library users.
- To know the perception of students and faculties on electronic information resources.

5. SCOPE AND LIMITATION

The scope and coverage of the proposed study extends to 34 major engineering college libraries established up to 2002. However, like any empirical study, the present investigation is characterized by following limitations.

- The scope of the study is geographically limited to the state of Orissa.
- There are different types of technical and non technical institutes in Orissa, but this research is limited to engineering colleges only.
- The study is limited to only electronic information resources and no other aspect of the libraries are investigated.
- The study has been carried out in the following engineering colleges.

Name of the College	Code	Address	Year of establishment
Ajay Binay Institute of Technology	ABIT	Cuttack	1998
Balasore College of Engineering & Technology	BCET	Balasore	2001
Bhadrak Institute of Engineering and Technology	BIET	Bhadrak	1982
College of Engineering	CEB	Bhubaneswar	1999
College of Engineering and Technolgy	CET	Bhubaneswar	1981
CV Raman College of Engineering	CVRCE	Bhubaneswar	1997
Dhaneswar Rath Institute of Engineering and Management	DRIEM S	Cuttack	1999
Eastern Academy of Science & Technology	EAST	Bhubaneswar	2001
GhanashyamHemalata Institute of Technology & Management	GHITM	Puri	1997

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Gandhi Institute of Advanced Computer & Research	GIACR	Rayagada	2000
Gandhi Institute of Engineering and Technology	GIET	Gunupur	1997
Gopal Krishna College of Engineering & Technology	GKCET	Jeypur	1999
Indira Gandhi Institute of Technology	IGIT	Saranga	1982
Jagannath Institute of Engineering and Technology	JIET	Cuttack	1996
Jagannath Institute of Technology and Management	JITM	Paralakhemundi	1997
Krupajal Engineering College	KEC	Bhubaneswar	1999
Kalinga Institute of Industrial Technology	KIIT	Bhubaneswar	1997
Koustuv Institute of Self Domain	KISD	Bhubaneswar	2001
Konark Institute of Science & Technology	KIST	Jatni	2001
Mahavir Institute of Engineering and Technology	MIET	Bhubaneswar	2001
Majhighariani Institute of Technology & Science	MITs	Rayagada	1999
National Institute of Science and Technology	NIST	Berhampur	1996
National Institute of Technology	NIT	Rourkela	1961
Orissa Engineering College	OEC	Jatni	1986
Padmanava College of Engineering	PCE	Rourkela	1999
Purushottam Institute of Engineering	PIET	Rourkela	1999
Padmashree Krutarth Acharya College of Engineering	PKACE	Bargarh	2002
Roland Institute of Technology	RIT	Berhampur	2000
Samanta Chandrasekhar Institute of Technology & Management	SCITM	Semiliguda	2001
Seemant Engineering College	SEC	Baripada	1997
Synergy Institute of Engineering and Technology	SIET	Dhenkanal	1999
Silicon Institute of Technology	SIT	Bhubaneswar	2001
Sanjay Memorial Institute of Technology	SMIT	Berhampur	2001
Veer Surendra Sai University of Technology	VSSUT	Burla	1956

6. METHODOLOGY

A complete quantitative survey method was followed to gather required data by administering a structured questionnaire among the library users which contains information about users' profile, opinion about e-resources and its impact on teaching and learning process. With a view to cover more than 500 user sample, 20 users including both students and faculties were approached in each of the 35 selected colleges. A total of 700 user questionnaires were distributed. Despite continuous follow-up and visit to the colleges, 549 filled-in questionnaires could be collected with a response rate of 78 per cent.

Data Analysis and Interpretation

The users who have participated in the study have diverse background characteristics consisting of different gender, ages, departments, students and faculties. It is found that (Table-1), about 73 per cent male and 27 per cent female users have participated in the current study. More than half of the users are less than 26 years and about 36 per cent are more than 30 years. Of all the departments, 21 per cent belong to CSE, followed by Basic Science and Humanities (19 per cent), Mechanical (18 per cent), Civil (12 per cent) and Electronics and Communication Engineering (ECE) (11 per cent). Users from other departments like Chemical, Electrical Engineering (EE), Electrical and Electronic Engineering (EEE) and IT range from 1 to 9 per cent. Among all the users who participated in the study, majority (42 per cent) are UG students. Only 9 percent are PG students and 1 per cent are PhD scholars. As very few colleges have option for taking PhD students, only 4 such users have participated in the study. The remaining 48 per cent users are faculties consisting of professors, associate professors and assistant professors.

Table 1 Profile of the library users

Background characteristics of the users	N	%
Gender		
Male	400	72.9
Female	149	27.1
Age		
≤20 years	123	22.4
21-25 years	160	29.1
26-30 years	71	12.9
≥31 years	195	35.5
Department		
Chemical	4	0.7
Civil	65	11.8
CSE	115	20.9
ECE	62	11.3
EE	51	9.3
EEE	34	6.2
IT	14	2.6
Mechanical	98	17.9
Mining	0	0.0
Other (Basic Sc. and Humanities)	106	19.3
Type of user		
Faculty (Prof)	48	8.7
Faculty (Asso. Prof)	39	7.1
Faculty (Asst. Prof)	173	31.5
PhD Scholar	4	0.7
Student (PG)	50	9.1
Student (UG)	229	41.7
Others	6	1.1

The users were asked questions about their opinion regarding transition from print to electronic medium of information resources. It is evident from Figure-1 that, for more than 80 per cent

Users, keeping up to date with information and learning-teaching efficiency has increased due transition from print to electronic information resources. Similarly, 74 per cent users said, access to amount of information sources, efficiency in accomplishment of academic assignment and research & publication activities has increased due to transformation from print to electronic resources. About 69 per cent users said that retrieval of information has increased due to introduction of e-resources. In the contrary, due to electronic resources, money spent on buying reading materials has been decreased. This is stated by 61 per cent users. Accordingly, more than half of the users have the opinion that, due to e-resources, their time spent in searching reading materials and dependency on the library has decreased. Again, 47 per cent said that, e-resource has decreased their frequency to visit library. However the overall analysis shows a positive impact of electronic resources on the users where they easily and quickly search requires resource materials. This in result seems to be improved their learning process and keeping up to date.

Table 2 Impact of e-resources on teaching and learning process

Types of E-resources	High		Moderate		Low	
	N	%	N	%	N	%
E-Books	407	74.1	130	23.7	12	2.2
E-Journals	434	79.1	97	17.7	18	3.3
E-Databases	288	52.5	200	36.4	61	11.1
E-Theses and dissertation	269	49.0	165	30.1	115	20.9
E-Newspapers	307	55.9	155	28.2	87	15.8

Table-2 depicts users response about the impact of different types of e-resources on teaching and learning process show that, for most of the users, all types of e-resources have a high impact on the teaching and learning process. Specifically, E-Journals and E-Books have high impact, which is said by 79 and 74 per cent of the users respectively. More than half of the users said, E-Newspaper and E-Databases have high impact on the teaching and learning process.

Table 3 User's preference of different features of information sources

Features of E-Resources	Print		Electronic	
	N	%	N	%
Authenticity of information	278	50.6	271	49.4
Ease of access	101	18.4	448	81.6
Ease of reading	351	63.9	198	36.1
Making a personal collection	197	35.9	352	64.1

Results regarding user's preference for different features of information sources highlighted in the above table. It shows, 82 per cent prefer the electronic resources due to its easy accessibility, while 64 per cent prefer the print resources because it is easy to read. However for authenticity of information, almost same proportion of users prefer print as well as electronic resources. Thus, it clarifies that users prefer print resources due to some features and electronic resources due to some other features.

Users' perception regarding electronic information resource varies significantly from one aspect to the other as shown in Figure-2. The most agreed insight (93 per cent) is, e-resources are easy to share with colleagues and friends. More than 80 per cent users agree that, such types of resource are huge in amount and easy to manage by adding book marks and notes. Similarly more than 70 per cent agree to the fact that, e-resources are accessible from any location and available as soon as published. However about 45 per cent users found that, e-resources are difficult to read and have complexity in searching and retrieval. About 43 per cent disagree that, majority of e-resources contain irrelevant content and 42 per cent said, it has no access to full text.

7. CONCLUSIONS

Undoubtedly, electronic resources have become essential in today's environment where digitization of information is given utmost priority. In this context electronic resources are preferred over the print resources by students and faculties for various reasons. Electronic resources have the advantage of keeping the user up to date, easy accessibility, knowing wide variety of information, easy storage, improved teaching and learning process, which attract most of the users. Additionally, the expenses made for it is very minimal compared to print resources. Thus it is worth to invest more resources to improve subscription of e-resources and widen its accessibility. This is expected to give a good mileage in the information seeking and dissemination behavior among the students and faculties of engineering colleges.

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