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Open Educational Resources (OERs) Prospectives and Exceptions Practiced by Faculties of Selected Universities in Odisha: A Study

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ABSTRACT
Now a day's, institute in higher education agrees that they are facing the challenge of the rising cost of textbooks and other study resources required for the study. On the other hand, the impact of ICT has spread over every field to provide the best and fastest services to its user. It's the user's demand in the IT era as the user needs immediate information to complete the tasks in their respective areas of knowledge. A combination of both (rising cost and advancement in ICT) gives a new concept Open Educational Resources (OERs), to provide a new way of collecting, producing, organizing, and disseminating information to its user. The Open Educational Resources (OERs) is a radical change in the area of education and research. OER has offered better solutions to achieve a greater level of efficiency, fruitfulness and quality service in libraries. The study is confined to only Faculties of Technical Universities of Odisha. The analyst has taken a random sample of visiting all the departments of the Universities. During the visit to the departments the investigator distributed the questionnaire to the faculties of the concerned disciplines of the university. A total of 380 questionnaires were distributed among the faculties of all disciplines. Out of which 306 faculty members responded to the questionnaire. The study explores that, Open Educational Access has become a major source of data sharing, as it provides timely access to data anywhere in the globe without dimensional barrier.

Key Words: OER, Universities, VSSUT, OUTR, SOADU, KIITDU

Introduction:
The impact of ICT has spread over every field to provide the best and fastest services to its user. It's the user's demand in the IT era as the user needs immediate information to complete the tasks in their respective areas of knowledge. A combination of both (rising cost and advancement in ICT) gives a new concept Open Educational Resources (OER), to provide a new way of collecting, producing, organizing, and disseminating information to its user. "The ever-rising demand for higher education, mismatch between demand and supply of quality educational resources, paucity of funds at the state and central government levels, higher cost of higher education" (Kayal & Das, 2017).
OER and five R's
Five R's given by David Wiley. 5R's are Retain, Reuse, Revise, Remix and Redistribute.
(https://moodle.gprc.ab.ca/mod/book/view.php?id=33543&chapterid=2493)

- ❖ first R stands for 'Retain' that allow the user to download, store and manage the OER.
- ❖ second R stands for 'Reuse' that allow the user to use the OER in many ways.
- ❖ third R stands for 'Revise' that allow the user to adapt, modify and translate into other languages.
- ❖ fourth R stand for 'Remix' that allow the user combines the original OER with other materials to upgrade the OER.
- ❖ fifth R stand for 'Redistribute' that allows the user to share the OER.

UNESCO (2002) define Open Educational Resources (OER) as "teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions." "Full courses, open courseware and content, educational modules, textbooks, streaming videos, tests and assessments, open-source software tools, and any

other tools and materials used to support teaching or learning" (Atkins et al., 2007). "At Hewlett, we use the term "open education" to encompass the myriad of learning resources, teaching practices and education policies that use the flexibility of OER to provide learners with high quality educational experiences. Creative Commons defines OER as teaching, learning, and research materials that are either (a) in the public domain or (b) licensed in a manner that provides everyone with free and perpetual permission to engage in the 5R activities– retaining, remixing, revising, reusing and redistributing the resources".(https://hewlett.org/strategy/open-education/).Educational resources cover all those materials produced inside or outside academic institutions but used in formal or non-formal learning are considered educational resources. Every educational material actually used for teaching and learning should be considered as educational resources (Geser and Open Learning Content Observatory Services, 2007). The application of Open Educational Resources (OER) have become a crucial method of providing the information, enrich the guiding and research practice for both faculties and students (Zaid and Alabi, 2020).

Objectives Of the Study

- To discover how frequently faculties visit the library.
- To examine the type of OERs used by the faculty members.
- To locate the purpose of using OERs.
- To observe the limits for using OERs.
- To notice the recommendations for its effective applications.

Review of Literature

In the article, Li Yuan and Wilbert Kraan (2008) describe that open education resources have gained much attention for hindering geographic, financial educational limits and encouraging permanent learning. Paper gives background information about the current development and future trends of OER. The concept of OER, its definition, vision, OER initiatives in higher education, different models of open education resources, the procedure of implementing open education resources, and different challenges of using OER is given in the said report. It is concluded that although there are many OER initiatives, and many institutions are sharing their resources over the internet, there are remain some challenges. Moreover, the main challenges are copyright and IPR issues.

Goswami, Saikat, and Biswas, Payel (2011), in an article, said that in the modern information era, information technology changed rapidly. It is found that inline information resources are available and can be found from many sources and is available by educators and learners from the internet. And because of that, this movement is called open education resources. Librarians in a variety of fields can also contribute to educational commons by creating OER. Thus, it is said that India has become an expert in open-source software as well as in the open access movement of OER. Many new-age LIS professionals in India help by increasing usage, visibility and outreach of indigenous open access resources including OER, through marketing, advocacy and outreach" (Pande, 2018).

Methodology:

The data for the present study was collected through structured questionnaire as well as personal interviews. The questionnaires were distributed randomly among the faculty members and librarians of various Technical Universities of Odisha. Particularly questionnaires were distributed among 380 faculties of Technical Universities of Odisha. Out of which 306(81%) questionnaires were collected respectively.

Table 1: Selected Technical University libraries in Odisha for the Present Study

Sl.No.	Technical Universities	Year Of Establishment
1.	Veer Surendra Sai University of Technology (VSSUT), Burla, Sambalpur	1956
2.	Odisha University of Technology and Research(OUTR) (Formerly CET),Bhubaneswar	1981
3.	Siksha O Anusandhan, (Deemed to be University) Bhubaneswar	1996
4.	Kalinga Institute of Industrial Technology, (Deemed to be University) Bhubaneswar	1997
5.	C V Raman Gobal University	1997
6.	Biju Patnaik University of Technology, Rourkela	2003
7.	International Institute of Information Technology, (IIIT) Bhubaneswar	2006

8.	Indian Institute of Technology (IIT) Bhubaneswar	2008
9.	Sri Sri University	2009
10.	Centurion University of Technology and Management	2010
11.	Driems University	1999
12.	Silicon University	2001

Analysis of Data Collected from Faculty Members

Table 2. Designation wise samples

Sl.No.	Designation	N	%
1.	Asst. Professors	120	39.22
2.	Associate. Professors	101	33
3.	Professors	84	27.47
		306	100

Out of total number of 306 respondents, it was revealed that the highest number of respondents belonged to the category of Asst. Professors120(39.22%), followed by Associate Professors 101(33%), Professors84(27.47). The obtained data is depicted in Table 2.

Table 3: Subject Specialization

Sl.No.	Subject Specialization	N	%
1.	Computer Sc. Engg	84	27.45
2.	Mechanical Engg	52	16.99
3.	Electrical Engg	48	15.68
4.	Civil Engg	35	11.43
5.	Basic sciences & Humanities	25	8.16
6.	Electronics & Telecommunication Engg.	18	5.88
7.	Electrical and Electronics Engg.	15	4.9
8.	Metallurgical & Materials Engineering	09	2.94
9.	Production Engg.	08	2.6
10.	Chemical Engg.	07	2.28
11.	B.Arch	05	1.63
		306	100

Maximum no. of respondents from Computer Science engineering 84(27.45%) followed by Mechanical engineering 52(16.99%),Electrical engineering 48(15.68%),Civil engineering 35(11.43%),Basic sciences & Humanities 25(8.16%)Electronics & Telecommunication engineering 18(5.88%),Electrical and Electronics Engineering 15(4.9%), Metallurgical & Materials Engineering 09(2.94%), Production Engineering 08(2.6%), Chemical Engineering 07 (2.28%), B.Arch 05 (1.63%).This is clearly depicted in Table 3.

Table 4: Teaching Experience

Sl.No.	Experience	N	%
1.	0 – 5 years	53	17.32
2.	6 – 10 years	149	48.69
3.	11 – 15 years	64	20.92
4.	Above 15 years	40	13.07
		306	**100**

The teaching experience of the sample respondent, it depicted in Table 4. The data reveals that almost half of the respondents have less than 10 years experience but mora than 6 years followed by one- fifth of the respondents who have less than 15 years and more than 11 years experience. Similarly, 17.32% of respondents have less than 5 years and 13.7 % respondents have more than 15 years experience.

Table 5: Gender wise Distribution

Sl. No.	Gender	N	%
1.	Male	232	75.81
2.	Female	135	44.11
	Total	306	100

Out of 306 respondents 232(75.81%) number of respondents belong to male and only 135(44.11%) females which are presented in Table 5.

Table 6: Frequency of Using Open Educational Resources

Using Open Educational Resources	N	%
Daily	131	42.81
Once a Weekly	63	20.58
Monthly	38	12.41
Rarely	74	24.18
Total	306	100

The Table 6 shows that 42.81% Faculty members are used Open Educational Resources daily, whereas 20.58% weekly once, 12.41% in a month and 24.18 % rarely.

Table 7: Purpose of Using the Library

Purposes	N	%
To get current awareness	214	69.94
To find particular information in the field of interest	298	97.38
To analyse course materials	61	19.93
To review Journals/Periodicals	122	39.86
To use Internet	28	9.15
To use Open Educational Resources	289	94.44
To meet/support research work	157	51.30

It is significant for the faculty members to recognize why they are using the library. From the above table that to get current awareness, the responses are 214 (69.64%), to find particular information in the field of interest 298(97.38%), to analyse course materials the response rate is 61(19.93%), similarly to analysis journals and periodicals the response rate is 122(39.86%), to use internet rates 28(9.15%), To use Open Educational Resources 289(94.44%), To meet / Support research work 157(51.30%). It is revealed from the table that most of the respondents use the library to find particular information in the field of interest, to use Open Educational Resources and to review journals and periodicals to use the library to meet & support the research work and the internet.

Table 8: Awareness about the Open Electronic Resources and Services

Sl.No.	Facilities and Services	Yes	No
1.	Facilities	163(53.26%)	143(46.73%)
2.	Services	143(46.73%)	163(53.26%)
	Total	306(100%)	306(100%)

Table no. 8 shows the awareness about the library facilities and services among the faculty members, 163(53.26%) are aware of the facilities, 143(46.73%) faculty members are not aware of the facilities similarly 143(46.73%) are aware about the services, 163(53.26%) faculty members are not aware of the facilities provided by the library.

Table 9: Time Spend in Using Open Educational Resources

Time	N	%
< 1 hour	13	4.24
1 hour	182	59.47
2 – 3 hours	252	82.35
>3 hours	54	17.64

Table no.9 described 4.24% of Faculties spend less than one hour time in using Open Educational Resources, 59.47% of Faculties spent one hour using Open Educational Resources likewise 82.35% faculties were using Open Educational Resources two to three hours and 17.64%, Faculties spent more than three hours.

Table 10: Easy to Access the Open Educational Resources

Access	N	%
Library	175	57.78
Campus	142	48.40
Home	85	27.77
No Convince Access	72	23.52

Table 10 reveals 175(57.78%) Faculty members respondent they are comfortable to access OER at the library, 142(48.40%) at campus access,85(27.77%) of them have connection at home whereas 72(23.52%) respondent there is no easy to access. But. Maximum faculty members depend upon the Campus access.

Table 11: Access of Open Educational Resources

Access	N	%
National Repository of Open Educational Resources (NROER)	95	32%
NPTEL	283	93%
DOAJ	295	96%
Shodhganga E-Thesis Repository	243	80%
Open Access India	82	27%
Open Education Network	95	32%
DOAB	73	24%
e-PG Pathsala	82	27%
SAKSHAT	71	23%
COURSERA	0	0
TED	295	96%
National Digital Library of India	263	86%
Open Textbook Library	195	64%
OER COMMONS	0	0
OASIS	28	9%
Saylor Academy	34	11%
Khan Academy	0	0
MIT Open Courseware	168	55%

It is found from the above table DOAJ 295(96%), TED 295(96%), NPTEL 283(92%), whereas National Digital Library of India 263(86%) of faculties were accessing the Open Educational Resources.

Table 12: Form of Use of Open Educational Resource

Form	N	%
Text/Print	306	100
Visual/Photograph	172	56
Audio	98	32
Video	195	64
Animation	95	31

It is found from Table 12. that all the faculties 306 (100%) of the respondents choose Print pattern Open Educational Resources followed by 195(64%) choose video and 172(56%) choose photograph. 95(32%) choose Animation. 98(32%) choose Audio.

Table 13: Types of Open Educational Resources used by Faculties

Type	N	%
Open Textbooks	138	45
YouTube Videos	243	80
Open Access Journals	185	61
Internet based web pages	218	71
Online Tutorials	164	53
Learning Modules	135	44
Research Articles	263	86

From Table No.13, it is evident that maximum faculties refer to research articles 263 (86%), YouTube videos 243(80%), Internet based web pages 218(71%), and Open Access Journals 185(61%) followed by others.

Table 14: Cause of Using Open Educational Resources

Cause	N	%
Easy to Access	306	100
Empower online Education	300	98
Contextualized	266	86
Open pedagogy	208	68
All of these	184	60

This table shows that all Faculty members agreed the purpose of using Open Educational Resources is easy to Access, 98% find empowered online education and 86% used it because it is contextualized, 68% give the statement they can create more meaningful learning experiences 60% found agreed with all these purposes.

Table 15: Constraints in Using Open Educational Resources

Types of Problems & Constraints	N	%
Incomplete Information Materials	164	53
Difficult in finding relevant Open Educational Resources	269	88
Reliability of the Information Retrieved	220	72
Lack of training in the use of OERs	168	55
Traditional textbook package	184	60
Due to institutional Policies	115	36
Perception Quality	92	30
Need of attitudes of library Staffs	220	72

From the above table it is distinct that 164(53%) users noticed that materials are incomplete whereas 269(88%) viewed they were facing problems to find the relevant Open Educational Resources. followed by 220(72%) reliability of retrieved information.,220(72%) need of attitudes of library staff, 168(55%) Lack of training in the use of OERs, 184(60%) Traditional textbook package, 115(36%) due to institutional policies and 92(30%) perception quality are the significant constraint for utilizing Open Educational Resources.

7. Conclusion

* The result of the study indicates majority of faculties were using Open Educational Resources daily.
* Though the faculties are known most of the OERs, maximum of them are used National Digital Library of India, DOAJ, TED, and NPTEL followed by Shodhganga E-Thesis Repository.
* The motto of using the Open Educational Resources is easy to access the online materials, to empower the online education.
* Most of the faculties prefer research articles, Internet based web pages and YouTube Videos.
* The Constraints of Using Open Educational Resources are difficulty in finding relevant information, Reliability of the data retrieved, and Lack of training in the use of OERs, students may adopt OER, if in doing so, they can adopt both textbooks and a package of related materials.
* It is recommended that library staff should arrange sufficient information on the OERs, and faculty should assist students in using OERs effectively. Or utilizing Open Educational Resources.

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