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Evaluation of selected Open Access Electronic Thesis and Dissertation Repositories

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Abstract

Purpose: The purpose of the study is to evaluate the selected open access electronic thesis and dissertation repositories based on the selected parameters like visual interface, search features, format, registration and alerting services.

Design/methodology/approach: Survey method coupled with online visits to selected repository websites was carried in order to achieve the objectives of study.

Findings: The findings show that repositories are having adequate features, but there is a need of improvement also.

Research limitations/implications: The scope of the study is limited to the open access electronic thesis and dissertation repositories of three subject domains viz General Sciences, Arts and Humanities and Social Sciences.

Keywords: Open Access, Repositories, electronic thesis and dissertations.

Paper type: Research Paper

Introduction and background

The present era demonstrates a set of interrelated and complex changes that reformed production methods based on values of openness, the wider participation and collaboration **(Peters, 2009).** These changes led to the environment of openness incorporating seamless innovative developments like open access, open source, open standards, open archives, open everything that led the first decade of 21stcentury to be known as O-decade. Open access is as such viewed by different stakeholders as the right alternative for promoting scientific progress and innovation, educational and lifelong opportunities, and understanding in the digital environment **(Geser, 2007).** Many Universities and Research institutions also joined these initiatives and made their research contributions in the form of theses and dissertations, conference proceedings, research articles, tutorials available in open access for broader visibility and accessibility at global level. This scenario led to the growth of plethora of number of OATDs available at global level. Hence the study, thus makes an effort to evaluate select Open Access Electronic Theses and Dissertations (OAETD) Repositories available at Open Access

Theses and Dissertations portal (www.oatd.org) by analyzing different parameters like access required, usage statistics, RSS feed, user interface, formats and other parameters.

Review of related literature

Gentleman, Carey, Bates and Bolstad (2004) spotlight a crystal idea of OAETD repositories. Besides defines them as digital archives, holding the intellectual and research output of researchers in every domain of information bank accessible to end users both within and outside of the institutions with negligible barriers. On other hand **Dettling, Dudiot and Hornik (2004)** highlights the essence and adequacy of OAETD repositories to research community. Related studies were carried out by **Ranirez, Dalton, McMillian, Read and Seamans (2012)** on OAETD repositories. They highlighted the contribution of higher education institutions worldwide in a way of making ETDs publicly available in open access repositories. Further the study investigated that OAETD repositories diminish the publishing constraints of scholarly work. Similar work was carried out by **Schopfel et al. (2014)** regarding content of open repositories and it was divulged that ETDs are vital part of the contents or holdings of open repositories. **Fernandiz, Francisco, Jose and Rodero (2016)** highlights that OpenDOAR is holding more than half of repositories containing ETDs. Another related and unparalleled study was carried out by **Roy, Biswas & Mukhopadhyay (2016)** on OA repositories of Coalition of OA Policy Institution. The study investigates that every-day one OA repositories is being included to the core databases of OA repositories viz OpenDOAR and ROAR. The study further revealed that there is inadequacy in the OA policies of OA repositories of developing institutions. Another study was carried out by **Ghosh (2008)** in India. He is of the view that India witnessed break-through in a way of ETD repositories in 1999. He also investigated the evolution of ETD in India to scrutinize use and preservation in an open access environment and exhorted the progression of ETD repositories. The study of **Sahu & Arya (2013),** leads towards different notions of open access in India and traced out less awareness of open access among academicians and research community. Similar study was carried out by **Ahmed, Alreyaee & Rahman**

(2014) in subcontinent Asia regarding growth and development of OAETD repositories. They are of the view that Asian countries are at the developing phase of making their ETDs available online with the framework of open access. **Rob, Sandra & Dermot (2015)** traces the important factor regarding open access repositories and draws findings in a way that open access repositories are not wholly core funded.

Scope

The scope is intended to the study of select OAETD repositories in the field of General Sciences, Arts and Humanities and Social Sciences available at (www.oatd.org).

Objectives

1. To examine the various technical aspects like Visual interface, search features, format, registration and alerting services.
2. To determine the publishing policies and usage statistics of selected repositories.

Methodology

Survey method coupled with online visits to selected repository websites was carried in order to achieve the objectives of study. Besides, a schedule was drafted to understand various features, duly enriched by experimental method to validate silent features.

Analysis/Discussion

1. Visual interface of repositories

While analyzing the data it has been revealed that out of 90 selected repositories the maximum 52 (57.8%) repositories are having Good Interface followed by 22 (24.4%) repositories are having excellent interface and 16 (17.70) repositories are witnessed as having average interface. Moreover the data reveals that in arts and humanities the maximum 16 (52.2%) repositories are having good visual interface followed by 10 (34.5%) repositories are having excellent interface and only 3 (10.3%) repositories are having average visual interface. Similarly in the social sciences the maximum 15 (44.1%) repositories are having good visual interface followed by 11 (32.4%) repositories are having average visual interface and less number of repositories 8 (23.5%) are having excellent visual interface. In the same way in General Sciences maximum 21 (77.80%) repositories are having good visual interface followed by 4 (14.8%) repositories are having excellent visual interface and only 2 (7.4%) repositories are having average visual interface (Table 1).

Table 1 Visual Interface of select OAETD repositories

Subjects	Excellent	Good	Average	Total
Arts & Humanities	10 (34.50)	16 (55.20)	3 (10.30)	29 (100.00)
Social Science	8 (23.50)	15 (44.10)	11 (32.40)	34 (100.00)
General Science	4 (14.80)	21 (77.80)	2 (7.40)	27 (100.00)
Total	22 (24.40)	52 (57.80)	16 (17.70)	90 (100.00)

Figures in parentheses indicate percentage N=90

2. Search Features of repositories

The analysis of data revealed that out of 90 selected repositories the maximum 49 (54.44%) repositories are having All* Basic Search features followed by 20 (22.22%) repositories in which only keyword Search was available and 11 (12.22%) and 10 (11.11%) repositories are having only author and title search features respectively. While making in-depth analysis, data highlights that in Arts and Humanities maximum 10 (34.48%) repositories are having only keyword search feature followed by 9 (31.03%) repositories having All* basic search features. In the Social Sciences 24 (70.60%) repositories are witnessing All* search features followed by 8 (23.50%) repositories having only keyword search feature. Finally in the General Sciences maximum 16 (59.25%) repositories are having All* basic search features followed by 5 (18.51%) repositories are having only author search feature (Table 2).

Table 2. Basic Search features of select OAETD repositories.

Subjects	Author Search	Title Search	Keyword Search	All*	Total
Arts & Humanities	5 (17.24)	5 (17.24)	10 (34.48)	9 (31.03)	29 (100.00)
Social Science	1 (2.90)	1 (2.90)	8 (23.50)	24 (70.60)	34 (100.00)
General Science	5 (18.51)	4 (14.81)	2 (7.40)	16 (59.25)	27 (100.00)
Total	11 (12.22)	10 (11.11)	20 (22.22)	49 (54.44)	90 (100.00)

Figures in parentheses indicate percentage N=90

*All includes subject search, keyword search, title search and author search.

3. Advanced Search features

While analyzing the data it clearly depicts that out of 90 selected repositories the maximum 66 (73.30%) repositories are having Advanced Search feature available followed by 24 (26.70%) repositories which lack advanced features. While minutely analyzing the data it further reveals that in Arts and Humanities the maximum 23 (79.30%) repositories are having Advanced Search

feature followed by 6 (20.70%) repositories in which advanced search feature was not available. Similarly in the Social Sciences 24 (70.60%) repositories are having Advanced Search feature and 10 (29.40%) repositories haven't advanced search feature. Likely in General Sciences maximum repositories 19 (70.40%) are having advanced search feature followed by 8 (29.60%) repositories lacks advanced search feature (Table 3).

Table 3. Advanced Search features of select OAETD repositories

Subjects	No	Yes	Total
Arts & Humanities	6 (20.70)	23 (79.30)	29 (100.00)
Social Science	10 (29.40)	24 (70.60)	34 (100.00)
General Science	8 (29.60)	19 (70.40)	27 (100.00)
Total	24 (26.70)	66 (73.30)	90 (100.00)

Figures in parentheses indicate percentage   N=90

4. OAETD repositories onsite Registration Requirement

An analysis of data revealed that out of 90 selected repositories more than half of repositories 68 (75.55%) are having onsite registration feature followed by 22 (24.44%) repositories in which the feature is not available (Table 4).

Table 4. Onsite registration requirement of select OAETD repositories

Subjects	No	Yes	Total
Arts & Humanities	3 (10.30)	26 (89.70)	29 (100.00)
Social Science	14 (41.20)	20 (58.80)	34 (100.00)
General Science	5(18.50)	22(81.50)	27 (100.00)
Total	22 (24.44)	68 (75.55)	90 (100.00)

Figures in parentheses indicate percentage   N=90

5. Access via login in OAETD repositories

An analysis revealed that out of 90 select repositories maximum 60 (66.70%) does not required login in order to access materials holding by OAETD repositories followed by 30 (33.30%) repositories were login is required in order to access information (Table 5).

Table 5. Login procedures of select OAETD repositories

Subjects	No	Yes	Total
Arts & Humanities	20 (69.00)	9 (31.00)	29 (100.00)
Social Science	17 (50.00)	17 (50.00)	34 (100.00)

General Science	23 (85.20)	4 (14.80)	27 (100.00)
Total	60 (66.70)	30 (33.30)	90 (100.00)

Figures in parentheses indicate percentage   N=90

6. Data format support in OAETD repositories

While analyzing the data it was revealed that out of 90 select repositories maximum repositories 71 (78.90%) are supporting PDF Format followed by 17 (18.9%) repositories having data in Others* formats. Similarly, few repositories were found that carries data in HTML and XLS Formats that is only one 1 (1.10%) in each format (Table 6).

Table 6. Data format of select OAETD repositories

Subjects	PDF	HTML	XLS	Others*	Total
Arts & Humanities	21 (72.40)	1 (3.40)	0 (0.00)	7 (24.10)	29 (100.00)
Social Science	25(73.50)	0 (0.00)	0(0.00)	9 (26.50)	34 (100.00)
General Science	25(92.60)	0(0.00)	1 (0.00)	1(0.00)	27 (100.00)
Total	71 (78.90)	1 (1.10)	1 (1.10)	17 (18.90)	90 (100.00)

Figures in parentheses indicate percentage   N=90

Others includes Image file formats

7. Publishing Policies of OAETD repositories

An analysis of data reveals that out of 90 selected repositories that there is not a big difference between haves and have-nots of publishing rights in the repositories. There are 48 (53.30%) repositories not having publishing rights followed by 42 (46.70%) having publishing rights (Table 7).

Table 7. Publishing right policies supported by OAETD repositories.

Subjects	No	Yes	Total
Arts & Humanities	6 (20.70)	23 (79.30)	29 (100.00)
Social Science	30 (88.20)	4 (11.80)	34 (100.00)
General Science	12 (44.40)	15 (55.60)	27 (100.00)
Total	48 (53.30)	42 (46.70)	90 (100.00)

Figures in parentheses indicate percentage   N=90

8. Usage statistics

The data highlights that out of 90 selected repositories maximum number of repositories 52 (57.80%) are providing Usage Statistics followed by 38 (42.70%) repositories that lack this

feature. While making in-depth study of data, it explores that in Arts and Humanities maximum repositories 23 (79.30%) are providing usage statistics followed by 6 (20.70%) repositories are lacking this feature. Similarly in the Social Sciences 18 (52.9%) repositories are having usage statistics followed by 16 (47.10%) repositories lack the feature. But in General Sciences less number of repositories 11 (40.70%) are having usage statistics while 16 (59.3%) repositories lack this feature (Table 8).

Table 8. Availability of Usage statistics in OAETD repositories

Subjects	No	Yes	Total
Arts & Humanities	6 (20.70)	23 (79.30)	29 (100.00)
Social Science	16 (47.10)	18 (52.90)	34 (100.00)
General Science	16 (59.30)	11 (40.70)	27 (100.00)
Total	38 (42.20)	52 (57.80)	90 (100.00)

Figures in parentheses indicate percentage   N=90

9. Citation styles supported by repositories

The data analysis highlights that out of 90 selected repositories the maximum 49(54.44%) repositories are supporting APA citation format followed by 22(24.44%) repositories supporting MLA citation standard. Furthermore the analysis of data highlights that in Arts and Humanities maximum repositories15 (51.72%) are supporting APA citation standards followed by 7 (24.13%) repositories supporting MLA citation standard .In the Social Sciences the maximum repositories 21 (61.76%) are having adopted APA citation style followed by 8 (23.52%) supporting MLA citation standard. In General Sciences maximum repositories 13 (48.14 %) are supporting APA citation standard followed by 7 (25.92%) repositories supporting APA (Table 9).

Table 9. Referencing and citation styles supported in OAETD repositories

Subjects	APA	MLA	Others*	Total
Arts and humanities	15 (51.72)	7 (24.13)	7 (24.13)	29 (100.00)
Social sciences	21 (61.76)	8 (23.52)	5 (14.70)	34 (100.00)
General sciences	13 (48.14)	7 (25.92)	7 (25.92)	27 (100.00)
Total	49(54.44)	22(24.44)	19(21.11)	90 (100.00)

Figures in parentheses indicate percentage   N=90

*others include Harvard, Oxford, Chicago and Turabian

10. Declaration of Creative commons licenses in OAETD repositories

While analyzing the data it has been revealed that out of 90 selected repositories a maximum number of repositories 54 (60.00%) are supporting Creative Commons Licenses and 36 (40.00%) repositories are not supporting. While making an in-depth analysis, the data highlights

that maximum repositories in Social Sciences 15 (44.10%) followed by 13 (44.80%) repositories in Arts & Humanities and 8 (29.60%) repositories in General Sciences are supporting creative commons licenses on the other-hand Arts and Humanities 16 (55.20%) repositories, Social Sciences 19 (55.80%) repositories and General Sciences 19 (70.40%) repositories are not supporting creative commons licenses (Table 10).

Table 10. Creative Commons Licenses supported in OAETD repositories.

Subjects	No	Yes	Total
Arts and humanities	16 (55.20)	13 (44.80)	29 (100.00)
Social sciences	19 (55.80)	15 (44.10)	34 (100.00)
General sciences	19 (70.40)	8 (29.60)	27 (100.00)
Total	54 (60.00)	36 (40.00)	90 (100.00)

Figures in parentheses indicate percentage   N=90

11. OAI-PMH complaint repositories in OAETD repositories

The analysis highlights that out of 90 repositories maximum repositories 72 (80.00%) are supporting OAI-PMH followed by 18 (20.00%) repositories are lacking OAIPHM (Table 11).

Table 11. OAI-PMH in OAETD repositories

Subjects	No	Yes	Total
Arts and humanities	6 (20.70)	23 (79.30)	29 (100.00)
Social sciences	3 (8.80)	31 (91.20)	34 (100.00)
General sciences	9 (33.30)	18 (66.70)	27 (100.00)
Total	18 (20.00)	72 (80.00)	90 (100.00)

Figures in parentheses indicate percentage   N=90

12. Alerting service RSS feature of OAETD repositories

The analysis revealed that out of selected 90 OAETD repositories a maximum number of repositories 65 (72.20%) are having the feature of alerting service RSS followed by 25 (27.80%) repositories lack alerting service feature (Table 12).

Table 12. Syndication protocol RSS of selected OAETD repositories.

Subjects	No	Yes	Total
Arts and humanities	13 (44.80)	16 (55.20)	29 (100.00)

Social sciences	10 (29.40)	24 (70.60)	34 (100.00)
General sciences	2 (7.40)	25 (92.62)	27 (100.00)
Total	25 (27.80)	65 (72.20)	90 (100.00)

Figures in parentheses indicate percentage   N=90

13. Availability of ATOM feeds in OAETD repositories

The analysis revealed that out of 90 selected repositories a very less number of repositories 28 (31.10%) are providing ATOM feeds while maximum 62 (68.90%) repositories lack alerting service feature (Table 13).

Table 13. Syndication protocol ATOM of select OAETD repositories

Subjects	No	Yes	Total
Arts and humanities	22 (75.90)	7 (24.10)	29 (100.00)
Social sciences	20 (58.80)	14 (41.20)	34 (100.00)
General sciences	20 (74.10)	7 (25.90)	27 (100.00)
Total	62 (68.90)	28 (31.10)	90 (100.00)

Figures in parentheses indicate percentage   N=90

Findings

- The findings further reveal that most of the repositories have good visual interface while only half are having excellent interfaces. Therefore it becomes imperative for the repository managers to work more towards improving user interfaces of OAETD repositories.
- The search features of repositories are adequate with proper searching and browsing facilities available for satisfying user approaches to the content.
- Many of these repositories provide direct access to content while few opt for onsite registration and necessary login requirements to interact with content.
- It is further revealed that while analyzing publishing policies, half of the studied repositories do not clearly reveal their policies therefore the ambiguity must be eliminated by way of incorporating necessary policy statements.
- Most of repositories reveal the usage statistics which provides the users with necessary data pertaining to the most used, viewed, downloaded item etc.
- In case of reference and citation styles, APA is most preferred followed by MLA while analyzing open licenses, it revealed that majority of repositories doesn't

incorporate Creative commons licenses style which makes it difficult for the users to understand the privileges for accessing and sharing of content

- Most of the repositories are OAI-PMH compliant which is positive sign for broader visibility of the content.

- Most of repositories support RSS and ATOM feeds. Thus keeping their user community abreast with the latest uploads in the repositories.

Discussion

Open access has greatly influenced the modern way research and development activities world over government establishments, organizations, universities and research institutes are supporting and promoting open access to scholarly content. The findings of present work further strengthen the belief that adaptation of open access procedures in different settings especially in modern day research is showing an increasing trend.

The availability of research products especially theses and dissertation in open access mode can be visibly viewed by the availability of good number of OAETD repositories (592) on oatd.org. These repositories are hosted from across the globe.

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