Open Access Repositories:

Current Status of Islamic Countries in the Green Road of Open Access Publishing

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The growing require for the recent knowledge coming from research projects entails open access to the studies carrying out all over the world. In this regard, Open Access (OA) literature offers its priorities of being digital, online, free of charge, and free of the common copyright and licensing restrictions [25]. The main objective of OA, therefore, is to maximize research impact by increasing its access [5]. In fact, the main reason behind the OA movement was the rapidly increasing cost of many scholarly journals. That is to say, journal prices have risen faster than library budgets and inflation rates which has led to cancellation of journals’ subscriptions in large numbers [19]. This procedure was called ‘price crisis’ in the history of scholarly serials [24].

With the advent of electronic journals, it was expected that besides improving the speed of research communication and enhancing informal discussion between scholars, electronic journals might also be able to reduce the publishing cost [8]. However, another crisis was brought about which was called ‘permission crisis’. The new crisis required libraries not only to pay subscription cost, but also restricted them by further licensing terms and software locks. This restriction prevented libraries from having full and free access to electronic journals as they might have to print journals [24]. Obviously, these serial crises resulted in the gap between the proportions of the literature that libraries could have access to, and the information that researchers needed [21].

To address the raised problem, a meeting was convened in Budapest in December 2001[21]. The purpose of this meeting was to accelerate progress in the international effort to make research articles, in all academic fields, freely available on the Internet.2 Budapest Open Access Initiative (BOAI) was the result of this meeting that was published in February 2002. BOAI identified two parallel and complementary strategies of ‘self-archiving’ and ‘OA journals’ [21] that could be used to move towards a fairer, more equitable, and more efficient communication system. According to BOAI, unlimited access to scholarly publishing is the main goal in OA system. Self-archiving in OA repositories and publishing in OA journals are the ways offered to achieve this goal.

OA Journals or Golden Road to OA Publishing: [10], Directory of OA Journals (DOAJ) defines OA journals as journals that use a funding model that

1. PHD student of University Malaya
2. Budapest Open Access Initiative 9 may 2008 at : http://www.soros.org/openaccess
does not charge readers or their institutions for having access. In addition, these journals must have peer-review or quality control procedures.3

Self-archiving or Green Road to OA: [10]. Self-archiving is to deposit a digital document in a publicly accessible website, preferably an OAI-compliant Eprint Archive.4 In fact, there are three ways through which researchers can provide OA to their articles by self-archiving, namely depositing a copy of an article on a personal or institutional website, depositing it in an institutional OA archive, and/or putting it in a subject-based (centralized) OA archive. Articles may be in pre-print (before peer-review) or post-print (after peer-review) forms [27].

Aim of the Study: The present study attempted to review the advantages and challenges of OA repositories. In this respect, it emphasized on ‘Institutional Repositories’ (IRs). The study, also, had a short review on current status and characteristics of OA repositories in the Islamic countries. Through drawing attention to the status of repositories in these countries, and raising participants’ awareness of WCOMLIS, the study, may, hopefully, contribute to the efforts carrying out to provide OA to research finding all over the world. Therefore, the present research article aimed to find answer to the following research questions:

1. What are the advantages of repositories for authors and institutions?

2. What challenges do repositories face?

3. What is the current status of OA repositories in the Islamic countries?

Operational definitions: In this study:

Institutional repositories (IRs) are set of services that universities or institutions offer to the members of their communities in order to manage and disseminate their digital scholarly outputs.

Islamic countries are the nations that are members of the Organization of the Islamic Conference.

The research context: Prior to any explanation about the population of the study, two important initiatives, namely DOAR and ROAR are briefly clarified in the following section.

Registry of Open Access Repositories (ROAR): ROAR started in 2004 by Tim Brody and was hosted by the University of Southampton. It has two functions: 1) to monitor the overall growth in the number of Eprint archives, and 2) to maintain a list of EPrints websites.


5. Free open source software has designed by Southampton University to facilitate self-archiving
According to ROAR, overall, out of 1093 repositories registered in this directory so far (1st of July, 2008), 15 belong to five Islamic countries. These countries are Turkey with six repositories, Malaysia with five, Egypt with two, and Indonesia and Pakistan each with one repository. However, based on the operational definition of IRs, some of the IRs listed in ROAR are not OA repositories.

Directory of OA Repositories (DOAR): DOAR is a project to list and categorize academic OA repositories. It aimed to provide a comprehensive and authoritative list of such repositories for end-users who wish to find particular archives or to break down repositories by location, content, or other measures. To this end, DOAR staff gathered and assigned metadata for wider use and exploitation of repositories. DOAR has been developed and maintained by the University of Nottingham as part of a collection of works in OA and repositories in 2006. This directory has listed over 1100 repositories. Among those, however, only 11 repositories that were set up by six Islamic countries (i.e., Turkey, Malaysia, Bangladesh, Egypt, Indonesia and Pakistan), have been harvested by this directory up to the 1st of July, 2008. Approximately, all of the harvested repositories by Open DOAR from the Islamic countries have been suggested to update their metadata, data, submission, content, preservation, and mandate policy.

Methodology: To achieve the objectives of the study, a review of the literature with a focus on the benefits and challenges of IRs was carried out. Furthermore, an initial search was conducted based on ROAR, and DOAR to find the related repositories in the Islamic countries. Findings revealed that there were 15 repositories set up by six Islamic countries. The exploration to find the information of repositories based on ROAR, DOAR, and repositories’ website was carried out during one week (i.e., 1st to 7th of July, 2008).

Population: Targeted Population for this study was 12 repositories from five Islamic countries (i.e., Turkey with five repositories, Malaysia with three, and Indonesia with two, and Bangladesh, and Pakistan each with one repository) that registered in ROAR and DOAR. In addition, to obtain enough information about the selected repositories, the previous studies together with the repositories’ websites were reviewed. It should be noted from the outset that, although Egypt also had repositories in the two mentioned websites, due to the operational definition of the study, they were excluded from the present work.

6 http://roar.eprints.org/index.php?action=browse
8 OpenDOAR. About OpenDOAR . available on 1st July 2008 at: http://www.opendoar.org/about.html
9 OpenDOAR. About OpenDOAR . available on 1st July 2008 at: http://www.opendoar.org/about.html
Institutional Repositories (IRs)

According to Crow (2002), IR is “a digital [collection] capturing and preserving the intellectual output of a single or multi-university community” [7]. In other words, IRs are databases with a set of services to capture, store, index, preserve, and redistribute a university’s scholarly research in digital formats [3]. According to Lynch (2003), university-based IR is a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members [17]. IRs and open archives unlike OA journals do not have peer-review processes [19]. In fact, readers are the main referees of OA archives. IRs may contain pre-prints, post-prints, or both. In other words, open archives can be limited to journal articles or may include dissertations, course materials, learning objects, video files, or any other kinds of digital files [19]. However, the type of content in a repository depends on the policy of that repository. By constructing OAI-compliant repositories, the institutions ensure that search engines such as OAIster and Google scholars will find individual articles and will not be buried in the ‘deep web’ [20]. The open archive movement generated the Open Archives Initiative (OAI) which was established to develop and promote interoperability standards that aim to facilitate efficient dissemination of content. These standards provide a publishing model that separates data providers (i.e., IRs, discipline-specific archives, and the databases that produce metadata) from service providers (i.e., metadata harvesters, search/retrieval, and other value-added access tools). In other word, OAI has established a metadata harvesting protocol that supports the interoperability of digital repositories irrespective of their type or content [7]. Since the metadata of all OAI-compliant archives are interoperable, they share the same tagging; therefore, it seems as if they are all in a virtual global archive, seamlessly searchable [12]. In addition, due to a number of free, open sources and OAI-compliant software packages, technological cost for an institution for setting up a repository is low [20]. Dspace and Eprint are two main OA repository softwares that cover overall 546 repositories up to the time of doing this research.

Advantages of IRs for Universities & Institutions

IRs have a number of benefits for authors and institutions. The most obvious benefit is to enhance citation and therefore, achieving a higher impact factor [16]. According to Harnad (2006), self-archiving increases citation up to 50% [13]. Similarly, Brody (2006) found that the articles self-archived by their authors received more citation (i.e., up to 50-250%) [4]. Ashworth (2005), also, mentioned that archiving in a repository can maximize the visibility of universities’ collective research and can allow better management of collective research output [2].

Swan and Needham (2005) believed that OA archives have some advantages for the institutions, to mention but a few, they accelerate and enhance the impact of

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10. Free open source IRs software developed by Massachusetts Institution Technology (MIT)
scholarly research; they help improve methods for impact measurement which in turn can generate better scientometric performance indicators for research productivity; and they, enable the generation of standardized online Curriculum Vitae (CV) for researchers of each institution [28]. Likewise, Prosser (2003) explained that IRs have benefits for the authors, institutions, and society; for authors, they provide a central archive of authors’ works, increase the dissemination and impact of their research, and act as their full CV. IRs are beneficial for institutions via increasing the institution’s visibility and prestige by bringing together the full range and extent of that institution’s research interests. They also act as an announcement for the institution to find new funding sources, potential new researchers and students, and so on. IRs offer advantages for the society via providing access to the world’s research projects. They also ensure the long-term preservation of scholarly outputs and accommodate increased volumes of research outputs [21]. Furthermore, technologies for data-mining and text-mining can only be applied in OA body [26]. Indeed, IRs serve as meaningful indicators of an institution’s academic quality by capturing, preserving, and disseminating a university’s collective intellectual capital [7]. For instance, the webmetrics Ranking of World Universities\(^\text{12}\) has created a ranking for repositories. In this ranking, the first three repositories were subject-based central repositories such as Arxiv (Physics), Repec (Economics), and E-Lis (Library Science). These repositories are fed by institutions all over the world. On the other hand, the fourth-ranked repository was Southampton University’s EPrints. This repository was placed in the first rank as a university-based IR that displayed only its own institutional outputs.\(^\text{13}\) This leadership was also reflected in Southampton's unusually high University Metrics (i.e., G Factor\(^\text{14}\)) and probably in its university webmetrics rank too.\(^\text{15}\) Due to the influence of IR, Southampton University was ranked 3rd in the UK and 25th in the world [14]. Stevan Harnad and Peter Suber, two advocates of OA, believed that if universities provide OA to their research works, they can raise visibility and impact of their outputs.\(^\text{16}\)

**Challenges of IRs for Universities and Institutions**

Despite the fact that archiving in IRs is an immediate and beneficial route of OA, this approach has not received sufficient attention [6]. According to Prosser (2004), the main challenge in setting up a repository is attracting content [20].

\(^\text{12}\) Webometrics Ranking of World Universities, 22 April 2008 http://www.webometrics.info/top200_rep.asp


\(^\text{14}\) G-factor: The G-factor international university ranking measures the importance of universities as a function of the number of links to their websites from the websites of other leading international universities.


Similarly, Holly, Rosenblum, and Emmett (2007) reported that filling IRs through self-archiving is remained a challenge [15]. However, the fact is that without content, an IR is just a set of empty shelves [9].

Furthermore, within institutions that setup repositories, a number of common concerns are heard from researchers. Swan & Needham (2005), for instance, claimed that academic authors had no sufficient motivation to archive in IRs. They believed the authors’ inertia to be the main obstacle to archiving in IRs [28]. Foster and Gibbons (2005), likewise, discovered that one of the main reasons that faculties did not disseminate their works through IRs, was their lack of knowledge about these archives in terms of concept, function, and career benefits [9]. In the same vein, Tarrago and Molina (2008) indicated that there was unfamiliarity with self-archiving and IRs 22]. Pelizzari (2003) found 6.4% of respondents expressing their willingness to deposit their outputs in OA archives without any condition. However, only one of those respondents was deposited in an OA archive [29].

Nevertheless, authors’ low interest in archiving in IRs implies that they may have some concerns in this regard. Some authors, for instance, are worried about copyright, if it is already transferred to traditional publishers; therefore, the publisher would not probably consent to deposit in an OA archive. It should be noted that the authors always have the copyright of their papers unless that copyright has been transferred. Therefore, they can always deposit a copy before signing the copyright transfer form. Prior publication was the other problem that authors face; some journals hardly accept the papers that have been appeared in a repository before official publishing. However, nearly all papers in high-energy physics appear on arXiv before publication. If journals attempted to enforce on 'no pre-publication' condition, they would have no papers to publish. In addition, some authors have concerns about the possibility of plagiarism if their works are going to be archived in IRs before publication. However, the same tools that allow a paper to be found and plagiarized, also, allow the plagiarism to be detected. Some authors, also, have concerns about the increased work-load of depositing papers [20]. However, the self-archiving process takes only about ten minutes for the first paper and even less time for all other subsequent papers.¹⁷ Nicholas, Jamali, and Rowland (2006) found that their respondents had concerns about quality of archived materials in IRs. Also, some of their respondents believed that peer-review process should be implemented in repositories [18]. A possible solution would be the deposition of peer-reviewed works with a quality stamp in IRs [21]. For the non peer-reviewed works, as mentioned before, readers would be the main evaluators. This is due to the meaning of ‘citation’ which is sometimes, even more subjective than peer-review.¹⁸

So far, only 5% of journals are OA (golden road to OA). In addition, though over 90% of papers are already green (i.e., they have given their authors the green light to self-archive); only about 10-20% of articles have been self-archived by their authors [10]. The green strategy (self-archiving) depends only on the research

community [12]. In self-archiving, the ball is in the research community’s court; free access to the published articles lead to maximizing the impact of these outputs due to being read by more users [11]. Therefore, research founders and institutions should mandate all of the research findings to be made freely accessible to all would-be users, webwide [13]. For instance, in line with this movement, the research employers and funders in the United Kingdom and the United States have recommended the universities to use OA. The universities were required to implement that mandate to promote OA [10]. In this respect, the Department of Electronics and Computer Science of Southampton - which hosts top ranking IRs-, had the first OA self-archiving mandate [23].

**Current status of IRs in Islamic countries**

Twelve universities/institutions from five Islamic countries had set up IR and share outputs of their communities with the world. These countries were Turkey with five repositories, Malaysia with three, Indonesia with two, and Bangladesh and Pakistan each with one repository.

**Established:** Table 1 shows the establish years of the repositories. Findings of the study indicated that 50% of the repositories were launched in 2007, 33% in 2008, 8% in 2006, and 8% in 2005. It can be concluded that, in comparison to the two previous years, the majority of repositories were established in 2007, and 2008. Ankara University OA repository was the earliest IR which was launched in April 2005. It should be noted that if the launch year of the repositories was not found based on ROAR, DOAR, and the related website, the registration year on ROAR was considered as the launch year of IR.

<table>
<thead>
<tr>
<th>Year</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>4</td>
<td>33%</td>
</tr>
<tr>
<td>2007</td>
<td>6</td>
<td>50%</td>
</tr>
<tr>
<td>2006</td>
<td>1</td>
<td>8%</td>
</tr>
<tr>
<td>2005</td>
<td>1</td>
<td>8%</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Type of Repository:** Table 2 illustrates the type of repositories in target group. Majority of 7(60%) repositories were introduced as research, institutional or departmental types. A total number of 4(32%) repositories were introduced as databases and indexes, e-theses, and disciplinary. One of the repositories had not been associated with any repository type. The findings indicated that the majority of repositories were IRs that disseminated outputs of their communities.

<table>
<thead>
<tr>
<th>Type of repository</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional or departmental</td>
<td>7</td>
<td>60%</td>
</tr>
<tr>
<td>Database &amp; index</td>
<td>1</td>
<td>8%</td>
</tr>
<tr>
<td>Disciplinary</td>
<td>1</td>
<td>8%</td>
</tr>
<tr>
<td>E-journal</td>
<td>1</td>
<td>8%</td>
</tr>
<tr>
<td>E-theses</td>
<td>1</td>
<td>8%</td>
</tr>
<tr>
<td>Not specified</td>
<td>1</td>
<td>8%</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>100%</td>
</tr>
</tbody>
</table>
Number of records: Table 3 shows the number of deposited items in the repositories. Overall 15652 records were deposited by nine repositories. Among the repositories, three had not any declaration of the number of their collection. Regarding the number of items, the Middle East Technical University’s E-Theses Archive from Turkey with 4800 deposited records, was placed in first rank among five studied Islamic countries.

<table>
<thead>
<tr>
<th>Records of Repository</th>
<th>Country</th>
<th>F</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankara University Open Archive Repository</td>
<td>Turkey</td>
<td>3376</td>
<td>3rd</td>
</tr>
<tr>
<td>Ataturk University Open Archive</td>
<td>Turkey</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gazi University Open Archive</td>
<td>Turkey</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>The Middle East Technical University’s E-Theses Archive</td>
<td>Turkey</td>
<td>4800</td>
<td>1st</td>
</tr>
<tr>
<td>Sabanci University Research Database</td>
<td>Turkey</td>
<td>2085</td>
<td>5th</td>
</tr>
<tr>
<td>PTSL UKM Repository</td>
<td>Malaysia</td>
<td>61</td>
<td>8th</td>
</tr>
<tr>
<td>UM Digital Repository</td>
<td>Malaysia</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>University Technology Malaysia Institutional Repository (UTM-IR)</td>
<td>Malaysia</td>
<td>4296</td>
<td>2nd</td>
</tr>
<tr>
<td>Gunadarma University Repository</td>
<td>Indonesia</td>
<td>544</td>
<td>7th</td>
</tr>
<tr>
<td>LIPI Institutional Repository</td>
<td>Indonesia</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>International Centre for Diarrhoeal Disease Research Digital Repository, Bangladesh (ICDDR,B)</td>
<td>Bangladesh</td>
<td>630</td>
<td>6th</td>
</tr>
<tr>
<td>Pakistan Research Repository</td>
<td>Pakistan</td>
<td>2382</td>
<td>4th</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>15652</td>
<td></td>
</tr>
</tbody>
</table>

Type of content: Content of the studied repositories is comprised of different types of scholarly outputs such as articles, conferences, books, presentations, multimedia, unpublished works, and theses. There was a trend to deposit theses in repositories in Pakistan and Turkey. Furthermore, subject of records in ten repositories was multidisciplinary; only two repositories had specific subjects.

Language: Table 4 shows the language of archived outputs. Findings indicated that the language of 42% (5) of records in the repositories was English. Also the same amount (42%) were in English and local languages. As the table indicates, items of two repositories (17%) were only in local language.

<table>
<thead>
<tr>
<th>Content Language</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>5</td>
<td>42%</td>
</tr>
<tr>
<td>Mix</td>
<td>5</td>
<td>42%</td>
</tr>
<tr>
<td>Local Language</td>
<td>2</td>
<td>17%</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>100</td>
</tr>
</tbody>
</table>

Software of IRs: Table 5 illustrates the software used by the repositories. Around 42% (5) of the repositories used Eprint, two repositories developed special software, and one repository utilized Dspace. The name of the software in four of the repositories was not reported.
Table 5. Software of repository

<table>
<thead>
<tr>
<th>Software</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eprint</td>
<td>5</td>
<td>42%</td>
</tr>
<tr>
<td>DSpace</td>
<td>1</td>
<td>8%</td>
</tr>
<tr>
<td>Others</td>
<td>2</td>
<td>17%</td>
</tr>
<tr>
<td>Not specified</td>
<td>4</td>
<td>33%</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>100</td>
</tr>
</tbody>
</table>

**Access to full-text:** Table 6 shows the quantity of access to full-text in studied repositories. Findings indicated that 67% (8) of the repositories had provided access to the full-text of their collection. In two of the repositories, access to the full-text of 84% and 75% of collection was possible. The other two repositories had some restrictions in allowing access to their collection; they did not mention the rate of access or restriction.

Table 6. Access rate to deposited items

<table>
<thead>
<tr>
<th>Access</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-text</td>
<td>8</td>
<td>67%</td>
</tr>
<tr>
<td>75%-84%</td>
<td>2</td>
<td>17%</td>
</tr>
<tr>
<td>Limitation</td>
<td>2</td>
<td>17%</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>100</td>
</tr>
</tbody>
</table>

**Registered in /Harvested by ROAR and Harvested by DOAR**

Table 7 shows the frequency of the repositories harvested by ROAR and DOAR. Finding of the study indicated that out of ten repositories registered in ROAR, six had been harvested by ROAR. It means that the OAI-PMH interface in these repositories was active and the deposited records were harvestable by service providers. ROAR had no successful harvesting in four repositories that had registered in this database. In addition, the next two repositories were listed only by DOAR.

Ten of the repositories were also harvested by DOAR. However when repositories are listed in DOAR, it means that they are harvested by this website. Findings indicated that only five of the repositories registered in/harvested by ROAR were harvested also by DOAR. It means that these repositories were retrievable through search engines. Besides, three of the repositories which were only registered in ROAR were harvestable by DOAR. One of the repositories, also, despite being registred in and harvested by ROAR, was not harvested by DOAR.

Table 7. Harvest by ROAR & DOAR

<table>
<thead>
<tr>
<th>ROAR &amp; DOAR</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered in ROAR</td>
<td>10</td>
</tr>
<tr>
<td>Harvest by ROAR</td>
<td>6</td>
</tr>
<tr>
<td>Harvest by DOAR</td>
<td>10</td>
</tr>
<tr>
<td>Harvest by ROAR &amp; DOAR</td>
<td>5</td>
</tr>
<tr>
<td>Registered in ROAR harvest by DOAR</td>
<td>3</td>
</tr>
<tr>
<td>Harvest by DOAR, no registration in ROAR</td>
<td>1</td>
</tr>
</tbody>
</table>
**IRs in Islamic countries:** A brief description of the repositories in the Islamic countries is presented in the following part.

**OA in Turkey:** The Anatolian University Libraries consortium (ANKOS) established OA and the IRs Working Group (OAIRWG) in January, 2006. The aim was to raise the awareness about OA and IRs among information professionals in Turkey. ANKOS is a member of the Scholarly Publishing and Academic Resources Coalition (SPARC) which aligns itself with the goal of SPARC on OA and IRs. OAIEWG requested the library communities to use OA documents and IRs. They also encouraged authors in LIS to deposit their work in an OA archive like E-LIS [1]. While six repositories from Turkey were registered in ROAR, only three of them are listed in DOAR. In the following section, five repositories from Turkey were reported.

**Ankara University’s Open Archive Repository (AUOAR)**

http://acikarsiv.ankara.edu.tr/

Ankara University Open Archive Repository (AUOAR) is one of the first OA initiatives in Turkey. It was formed as part of OA project in April, 2005 with the aim of supporting scholarly research. This University constructed special software (Mikrobeta) for repository in July, 2005. Since the early 2006, theses/dissertations and published articles, with their authors’ permission, have been included in the archive.\(^{19}\) According to ROAR, 3376 items were deposited in this repository up to 7\(^{th}\) of July, 2008. Content of this multidisciplinary repository was comprised of articles, conference papers, unpublished works, books, and learning objects in English and Turkish. AUOAR was registered in Open Archive Initiatives (OAI) in July, 2006 to meet the criteria of the OAI-PMH protocols [1]. The interface of the repository was in English and Turkish.\(^{20}\) According to ROAR, the items of this repository were freely accessible in full-text.

**The Middle East Technical University’s (METU) E-Theses Archive**

http://hitit.lib.metu.edu.tr/oai

In September 2003, METU library’s theses/dissertations archive was established. Since then, students have been submitting their theses in print and digital PDF format. Since April, 2004, the METU library has been a member of Networked Digital Libraries and dissertations, an initiative to increase knowledge sharing [1]. According to ROAR, out of 457 PhD and 2727 MSD Thesis, 84% were OA, 10% were open only to the universities, and the other 5% had an embargo for two years. The repository, therefore, was registered as an e-theses type in ROAR.\(^{21}\) This repository included theses and papers in different subjects in English and Turkish. The repository had only been harvested by ROAR. The name of the software used in this repository was not mentioned. This repository, with 4800

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deposited records, was placed in the first rank among the repositories of Islamic countries.22

**Ataturk University’s Open Archive**

http://acikarsiv.atauni.edu.tr

This repository was launched with participation of Information and Records Management Department in Ataturk University. It was registered in ROAR in 2008. Specified software was developed for this repository based on international standards.23 The interface was in English and Turkish. The name of the software was not mentioned. Content of this multidisciplinary repository included articles, conference papers, theses, books, and multimedia in English and Turkish. According to ROAR, the records of this repository were freely accessible in full-text. This repository had not been harvested by ROAR up to the date of conducting this research. None of ROAR, DOAR, and website of the repository had reported the number of deposited records of this repository.24

**Gazi’s Open Archive**

http://www.acikarsiv.gazi.edu.tr/index.php

This repository was registered as a database in 2007 in ROAR. Gazi University faculties can archive all kinds of academic outputs such as articles, theses, books, learning objects, and multimedia in this repository. According to ROAR, items of the repository were freely accessible in full-text.

Although Gazi University’s Open Archive System had been developed based on OAI-PMH Standards, 25 the OAI-PMH interface was not working properly; therefore, successful harvesting had not been done by ROAR. Its interface was in English and Turkish. It was possible to browse this multidisciplinary repository by articles, theses, projects, book chapters, and lesson notes.

**Sabanci University’s Research Database**

http://research.sabanciuniv.edu/

Sabanci University members can deposit their outputs in this repository which included 1832 items up to 7th of July, 2008. Users can set up Atom26 and RSS27 feeds to be alerted by new contents. Eprint, a free open source software, was used

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26 The name Atom applies to a pair of related standards. The Atom Syndication Format is an XML language used for web feeds, while the Atom Publishing Protocol is a simple HTTP-based protocol for creating and updating web resources.  based on http://en.wikipedia.org
27 Rich Site Summary or Really Simple Syndication, based on http://en.wikipedia.org
in this repository in September, 2007. Its interface was in English. Sabanci University Research Database supported OAI standards. Besides, searching by interface, it was possible to browse the hierarchy of subjects that were categorized based on the classification of the library of congress.\(^{28}\) According to ROAR, 75% of the collections of this repository were freely accessible in full-text. The content of this repository included articles, conferences, unpublished works, and books.

**Malaysia:** Five Malaysian repositories were registered in ROAR, while DOAR had reported only three of them (PTSL UKM’s Repository, University Technology Malaysia’s (UTM) Institutional Repository, and UM’s Digital Repository). In this study, these three repositories from Malaysia, which are based on the operational definition of IR, were studied.

**PTSL University Kebangsaan Malaysia’s (UKM) Repository**  
http://eprints.ukm.my/

This repository provides access to the research outputs of the UKM. It was registered in ROAR in 2007 as a research institutional type. The Eprint package was used as software and its interface was in English. This repository was based on OAI-PMH protocol.\(^{29}\) Totally, 65 items such as articles and conference papers were deposited in this multidisciplinary repository up to 7\(^{th}\) of July, 2008. The repository provided facilities to search by interface and browse the hierarchy subject which was based on the classification of the library of congress.\(^{30}\) Furthermore, users can set up Atom and RSS feeds to know about the new contents. According to ROAR, items of this repository were accessible in full-text.

**University Technology Malaysia’s (UTM) Institutional Repository**  
http://eprints.utm.my/

This repository was registered in ROAR in 2007. It aimed to provide access to research outputs of academic staff and postgraduate students (past and present) of University Technology Malaysia.\(^{31}\) This institutional multidisciplinary repository hosted all kinds of university publications and documents such as theses, dissertations, research reports, conference proceedings, pre/post-print journal articles, book chapters, monographs, lecture materials, and learning objects. According to ROAR, deposited records were freely accessible in full-text.\(^{32}\) Totally 4181 items (English and Malay) were deposited in this repository up to 7\(^{th}\)

\(^{28}\) http://research.sabanciuniv.edu/ on 7\(^{th}\) of July, 2008  
\(^{29}\) http://opendoar.org on 3\(^{rd}\) of July, 2008  
\(^{30}\) http://eprints.ukm.my/ on 7\(^{th}\) of July, 2008  
\(^{31}\) http://eprints.utm.my on 7\(^{rd}\) of July, 2008  
\(^{32}\) www.roar.org on 7\(^{th}\) of July 2008
of July, 2008. Eprint software was used in this repository which was based on OAI-PMH protocol.

**University Malaya’s (UM) Digital Repository**

http://eprints.um.edu.my/

This IR provides access to the outputs of UM. It was registered as a research institutional type in ROAR in the early 2008. Based on the website of the repository, totally, 31 items were deposited in this repository up to 7th of July, 2008. According to ROAR, its harvesting was not successful. Also the OAI-PMH interface did not work up to now (3rd of July, 2008). According to ROAR, deposited items were freely accessible in full-text. Content of this repository included articles, conferences, and multimedia in different subjects. Users can set up Atom and RSS feeds to be informed of the new contents. Eprint software was used to run the repository. Its interface was in English. This repository was based on OAI-PMH protocol. This repository made it possible to browse the hierarchy of subjects which was based on the classification of the library of congress. In addition, the repository was searchable by year, faculty, author/editor, as well as type.

**Bangladesh:** The only repository of Bangladesh was listed in DOAR. It was not registered on ROAR.

**International Centre for Diarrhoeal Disease Research’s Digital Repository, Bangladesh (ICDDR, B)**

http://dspace.icddrb.org/

Digital repository of International Centre for Diarrhoeal Disease Research as a disciplinary archive was registered in ROAR in 2008. It provided access to research works on diarrhoeal diseases. Some of records in this repository were only available to registered users. This repository was hosted by ICDDR, B which is an international health research institution located in Dhaka. Totally, 1395 items were deposited in repository up to 7th of July, 2008. The archived documents were comprised of articles, conferences, specified in biology/biochemistry, health/medicine, and library and Information Science in English. The repository applied Dspace to deposit, manage, and retrieve documents.

**Pakistan:** Only one repository from Pakistan had been registered in ROAR.

Pakistan Research Repository

This repository was registered in ROAR in 2006, and was hosted by the Higher Education Commission of Pakistan. Content of this multidisciplinary repository included full-text PhD theses in Pakistan. Overall, 1129 PhD theses were deposited in this repository up to 30th of April, 2008. According to ROAR, records of this repository were freely accessible in full-text.

Repository used Eprint open source software and applied OAI-PMH protocol. The interface helps the deposited items to be searchable by year, subject, type, and institution. Although the repository was registered as a research institutional or departmental category in ROAR, it was a central repository for PhD theses in Pakistan.

Indonesia: In this study, two repositories from Indonesia are described.

Gunadarma University’s Repository

This institutional repository deposited a total number of 544 items until 7th of July, 2008. This multidisciplinary repository was registered in ROAR in 2008. This repository utilized open repository software with English interface. Users can browse the hierarchy of subjects on the website of this repository. The records in hierarchy were categorized based on the classification of the library of congress. Users can set up Atom and RSS feeds to be alerted of new content.

LIPI Institutional Repository (LIPI-IR)

This institutional repository was launched in 2007. LIPI IR was hosted by Indonesian scientific knowledge center. This repository aimed to improve public access to the scientific information as a part of LIPI's commitment to support the global OA initiatives. The repository provided access to the outputs of research groups belonging to the LIPI across Indonesia. In this repository many items were not available as full-text. This repository contained documents such as articles, references and theses. The interface was in English. The name of the employed software was not mentioned. This repository had been harvested only by DOAR.

41. http://repository.gunadarma.ac.id/ on 7th of July, 2008
Conclusion

OA literature is defined as the free access to full-text of digital documents without any restriction. With self-archiving (green road) in an OAI compliant archive, deposited items could be accessible web wide. The outstanding benefit of self-archiving is to increase the citation which leads to author and institution’s prestige. Furthermore, online CV, long term preservation, and facilities for data-mining/text-mining are the other advantages of OA archives.

On the other hand, the main challenge of repositories is attracting enough content. Unfamiliarity with concepts and functions of OA, lack of motivation to deposit in an OA archive, and even inertia of authors were among the obstacles to self-archiving. The barriers that may influence attracting of contents in IRs were the authors’ concern about copyright, plagiarism, archiving before official publishing in a journal, and lack of quality control over deposited items.

According to Organization of the Islamic Conference (OIC), 57 countries are members of this union. Out of 57 countries only in five Islamic countries (Turkey, Malaysia, Indonesia, Bangladesh, and Pakistan) some universities and institutions in had set up repositories.\(^{42}\) It seems that IRs in Islamic countries are at an infancy stage. Regarding current statues of repositories in Islamic countries, it should be noted that even if all of the registered repositories in ROAR or harvested repositories by DOAR are considered as OA archive, the number is still very low. Out of 1093 repositories registered in ROAR, only 15 of them belong to Islamic countries. Similarly, out of 1100 repositories harvested by DOAR, only 11 of them had been set up by Islamic countries.

On the other hand, it should be said that, although some Islamic countries had no repositories in the list of DOAR and ROAR, it does not mean that their scientific outputs is low. “For example, more than 50% of knowledge production and citation of Islamic countries had been produced by Turkey and Iran. Also, Egypt has an important role in scientific production among Islamic countries”\(^{43}\). However, it should be noted that repositories in Islamic countries had problems in attracting content. Low number of deposited items in these repositories certifies this idea.

Perhaps, low interest in setting up IRs and lack of deposited records in these archives were due to authors’ unfamiliarity with concepts, function, and benefits of IRs. In order to be visible, institutes should set up online OA repositories and then motivate their authors to archive scholarly outputs there. Therefore, authors and institutions would achieve higher citation/impact and prestige.


The study found that although some repositories were harvested by DOAR or registered in ROAR, they do not match with the definition of OA or IRs in this study. Some of these repositories were only a digital library or had restrictions in access to the full-text of collection. Most of the repositories had no policy, whereas DOAR suggested them to update it.

IRs need more attention from academic community. To help IRs achieve their deserved attention, all stockholders in the scientific communities (academic staff, researchers, students, librarians, managers, and etc.) can play important role in this movement. For instance, besides providing recourses to their users, libraries can set up and host IRs in order to disseminate outputs of their authors through repositories. In the present study, some of the studied repositories, in addition to allowing search through website, had provided facilities for users to browse the hierarchy of subjects. The hierarchy was based on the classification of the library of Congress which shows the important roles of libraries and librarians in IRs.

As any human production, the present study had certain limitations that need to be taken into account when considering its contributions. Firstly, it has focused only on repositories that were listed in DOAR or registered in ROAR. The other limitation relates to its methodology due to collecting data during one week. Last but not least, other qualitative and quantitative studies are required to emphasize the challenges and benefits of existing repositories for institutions and researchers. It is hoped that this and other studies promote launching new repositories in Islamic countries.

References


25. Suber, P., Open Access Overview. Available online at: http://openmed.nic.in/1359/01/OA_ISC.pdf#page=8


