Open Access Repositories:
Current States of Islamic Countries in Green Road of Open Access Publishing

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Open-access (OA) literature is digital, online, free of charge, and free of most copyright and licensing restrictions [25]. The objective of open-access is to maximize research impact by maximizing research access [5]. In fact the Basic reason behind the open access movement was the rapidly increasing cost of many scholarly journals. Which means that Journal prices have risen faster than library budget and inflation rate, as a result, it lead to cancellation of journals subscriptions in large numbers [19]. This event is called price crises in history of scholarly serials [24]. With the coming out of electronic journals it was expected that electronic scholarly journals besides improving the speed of research communication and enhancing informal discussion between scholars, able to reduce the publishing cost too, [8] but it caused to another crises, permission crisis. It means that, even when libraries pay, they are restricted by licensing terms and software locks that prevent them from using electronic journals in the same full and free way that they may now use print journals [24]. Obviously serial crisis represents a gap between the proportion of

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the literature that libraries can access and the information that researchers need to be effective [21].

To address these issues a meeting was convened in Budapest in December 2001[21]. The purpose of the 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 published in February 2002. BOAI identified two parallel and complementary strategies that could be used to move towards a fairer, more equitable, and more efficient communications system. These were self-archiving and open-access journals [21]. According to BOAI, open access to peer-reviewed journal literature is the goal; Self-archiving and a new generation of open-access journals are the ways to achieve this goal.

**Open Access Journals or Golden Road to Open Access Publishing:** [10], Directory of Open Access Journals (DOAJ) defines open access journals as journals that use a funding model that does not charge readers or their institutions for access. In addition these journals must have peer-review or editorial quality control too.³

**Self-archiving or Green Road to Open Access Publishing:** [10]. Self-archiving is to deposit a digital document in a publicly

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². Budapest Open Access Initiative 9 may 2008 at : [http://www.soros.org/openaccess](http://www.soros.org/openaccess)
accessible website, preferably an OA-compliant Eprint Archive. In fact there are three ways in which researchers can provide open access to their articles by self archiving. They can deposit a copy of article on a personal or institutional website, or place it in an institutional open access archive, or put it in a subject based, centralized, open access archive (like arXiv in physics). Articles may be in preprint (pre peer review or pre-refereeing) or post print (after peer review or refereed) form [27].

**Aim of Study:**
This paper aims to review the advantages and challenges of open access repositories (“Green Road to Open Access Publishing”) with emphasis on “Institutional Repositories” to highlight the importance of them along with short review on current states and characteristic of open access repositories in Islamic countries. This study through drawing attention to status of repositories in Islamic countries, and also by awareness among participants of wCOMLIS, maybe contribute to the efforts that carry out to provide open access to research finding in global.

**This paper aims to find answer to the following questions.**
1. What are the advantages of repositories for authors and institutions?
2. What challenges do repositories face with?
3. What is current status of open access repositories in Islamic countries?

**Operational definition:**

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Institutional repositories: IRs is a set of services that a university/institution offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members.

Islamic countries: The countries that are member in Organization of the Islamic Conference.

Methodology:
For the purpose of this study, an analysis of the recent literature is carried out, focusing on the benefits and challenges of institutional repositories. Furthermore an initial search is carried out based on Registry of Open Access Repositories (ROAR) and Directory of Open Access Repositories – OpenDOAR to find the related repositories in Islamic countries. Findings showed that there were fifteen repositories that set up by six Islamic countries. Based on exploration has done during one week (1st to 7th of July 2008), name of the repositories and their characteristics were derived from Registry of Open Access Repositories (ROAR), Directory of Open Access Repositories (DOAR), and linked website.

Population:
Before any explanation about population of study, I mention at two important initiatives (Registry of Open Access Repositories (ROAR) and Directory of Open Access Repositories – OpenDOAR) on open access repositories.

Registry of Open Access Repositories (ROAR)
ROAR started in 2004 by Tim Brody and hosted by university of Southampton. The registry has two functions: (1) to monitor overall growth in the number of Eprint archives and (2) to maintain a list of EPrints\(^5\) sites.

According to ROAR, of the 1093 repositories which have registered in this directory up to now (1\(^{st}\) of July 2008) five Islamic countries (Turkey six, Malaysia five, Egypt two, Indonesia, and Pakistan have one repository) have only fifteen repositories.\(^6\) However based of operational definition of institutional repository, in fact some of them are not open access repositories or IRs.

**Directory of Open Access Repositories (DOAR)**

DOAR is a project to list and categorize academic open access research repositories. The aim is to provide a comprehensive and authoritative list of such repositories for end-users who wish to find particular archives or who wish to break down repositories by location, content or other measures.\(^7\) DOAR staff harvest and assign metadata to wider use and exploitation of repositories.\(^8\) DOAR is being developed and maintained by the University of Nottingham as part of a collection of work in Open Access and repositories in 2006.\(^9\) This directory has listed over 1100 repository.

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\(^5\) Free open source software has designed by Southampton University to facilitate self-archiving


\(^8\) OpenDOAR. About OpenDOAR. Available on 1\(^{st}\) July 2008 at: [http://www.opendoar.org/about.html](http://www.opendoar.org/about.html)

\(^9\) OpenDOAR. About OpenDOAR. Available on 1\(^{st}\) July 2008 at: [http://www.opendoar.org/about.html](http://www.opendoar.org/about.html)
Only eleven repository that set up by six Islamic countries (Turkey four, Malaysia three, Bangladesh, Egypt, Indonesia and Pakistan each one repository) have harvested by this directory up to 1st of July 2008. Approximately all of the harvested repositories by Open DOAR from Islamic countries have been suggested to update the metadata, data, submission, content, preservation and mandate policy.

**Population:** Targeted Population for this study is twelve repositories from five Islamic countries (Turkey five, Malaysia three, Indonesia two, Bangladesh, and Pakistan each one repository) that registered in ROAR and DOAR. In addition, previous studies, and the website of the chosen repository is used to cover more information about the selected repositories. Although Egypt had repositories in the two mentioned website, but, because of the operational definition of the study, they were excluded from the present work.

**Institutional Repositories (IRs)**

According to Crow (2002) institutional repository is “a digital [collection] capturing and preserving the intellectual output of a single or multi-university community [7]. In other words, an institutional repository is a database with a set of services to capture, store, index, preserve and redistributes a university’s scholarly research in digital formats [3]. According to Lynch university-based institutional repository 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]. Institutional repositories and open archives unlike open access journals don’t have peer-review process [19]. In fact readers are the main referee for open access archives. IRs may contain pre-prints, post-prints, or both. In other word open archives can be limited to journal articles or can include dissertations, course materials, learning objects, video files, or any other kind of digital file[19]. However type of content in a repository depends on policy of that repository. By constructing OAI-compliant repositories the institution ensures that search engines such as OAIster and Google scholars will find individual articles and these 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 standard build on a publishing model that separates data providers (institutional repositories, discipline-specific archives, and the like which produce metadata) from service providers (metadata harvesters, search/retrieval, and other value-added access tools). In other words, OAI established a metadata harvesting protocol that supports the interoperability of digital repositories irrespective of type or content [7]. Since the metadata of all OAI-compliant archives are interoperable, they share the same tagging, and therefore it is as if they were all in global virtual archive, seamlessly searchable [12]. In addition technological cost for an institution in setting up a repository is low, because a number of free, open sources, OAI-compliant software packages exist for managing institutional repositories [20].
Dspace\textsuperscript{10} and Eprint are two, main open access repository software, that cover overall 546 repositories.\textsuperscript{11}

**Benefit of Institutional repositories (IRs) for Universities & Institutions**

No doubt Institutional repositories (IRs) have a lot of benefits for both authors and institutions. The most obvious benefit of making their work open access is the enhanced citation, and therefore impact factor of work \cite{16}. According to Harnad self-Archiving, increases citations by 50\% \cite{13}. Similarly Brody (2006) found that the articles self-archived by authors receive between 50-250\% more citations, and at the same time, the total age of cited papers has increased. He concluded that open access to research papers provides citation impact advantage and reduces the citation latency \cite{4}. Also Ashworth (2005) mentioned that repository can maximize the visibility of collective research of the university and can allow better management of collective research output \cite{2}. Swan and Needham(2005) believed that open access archives have some advantages for the institution, first of all it accelerate and enhance the impact of scholarly research ;second, it make possible to improve methods for impact measurement which in turn can generate better scientometric performance indicators for research productivity , and third it also enables the generation of standardized online CVs for researchers of each institution which can be used for internal and external evaluation purpose\cite{28}. In the

\textsuperscript{10} Free open source IRs software developed by Massachusetts Institution Technology (MIT)

\textsuperscript{11} \url{http://roar.eprints.org/index.php?action=browse}
same way Prosser (2003) explained that institutional repositories have benefits for the authors, institutions, and society. First, in the terms of benefits for authors they can provide a central archive of their work, increase the dissemination and impact of the individual’s research, and they act as a full CV for the researcher. Secondly, for institutions they can increase the institution’s visibility and prestige by bringing together the full range and extent of that institution’s research interests, and also they act as an advertisement for the institution to funding sources, potential new researchers and students, etc. And finally they supply advantages for society via providing access to the world’s research, to ensure long-term preservation of institutes’ academic output, and through ability to accommodate increased volume of research output (no page limits, can accept large data-sets, ‘null-results’, etc.)[21]. Furthermore the technologies for data-mining and text-mining - to create new, meaningful scientific information from existing, dispersed information using computer technologies - can only applied in open access body[26]. Hence, to deposit in institutional repositories increase citation this in turn led to prestige of both authors and institutions. Indeed institutional repositories, by capturing, preserving, and disseminating a university’s collective intellectual capital, serve as meaningful indicators of an institution’s academic quality [7]. For instance, the Web metrics Ranking of World Universities¹² has created a new Ranking for Repositories, the first three repositories are subject-based Central Repositories (CRs): (1) Arxiv (Physics), (2) Repec (Economics) and (3) E-Lis (Library Science). That is to be expected, because such CRs are fed from

¹² Webometrics Ranking of World Universities. 22 april 2008 http://www.webometrics.info/top200_rep.asp
institutions all over the world. But the fourth-ranked repository -- and the first of the university-based Institutional Repositories (IRs), displaying only its own institutional output -- is (4) University Southampton EPrints.".  

13 This leadership is also reflected in Southampton's unusually high University Metrics "G Factor" and probably in its university webmetric rank too. Consequently University Southampton ranks 3rd in the UK and 25th in the world [14]. Stevan Harnad and Peter Suber -- two advocate of OA-- have long argued that when universities provide OA to their research output, they can raise their visibility and impact.  

16 According to Swan & Needham (2005) Institutions need an incentive to set up repositories. They recommend that the requirement for universities to disseminate their research as widely as possible by written into their charter [28].

Challenge of Institutional repositories (IRs) for Universities & Institutions

In spit of that institutional repositories is far more immediate and beneficial route, but this approach to OA is not receiving sufficient attention and often is misunderstood [6]. According to Prosser (2004) the main challenge in setting up a repository is attracting


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.  


content [20]. Similarly Holly, Rosenblum and Emmett (2007) argue that to fill institutional repositories (IRs) through self-archiving remains a challenge [15]. But without content, an IR is just a set of empty shelves [9]. Yet within institutions that have set-up repositories a number of common concerns from researchers have been heard. Swan & Needham (2005) claimed that academic authors currently lack sufficient motivation to self archiving in institutional repositories. It seems the author inertia is the main enemy of an e-print archive once it is established [28]. Foster and Gibbons (2005) discovered that one main reason faculty have not disseminated their works through institutional repositories was that they did not have enough knowledge about the institutional repository in terms of its concept, function, and career benefits [9]. Also Tarrago and Molina (2008) indicated that there is unfamiliarity with self archiving and institutional repository [22]. Pelizzari (2003) found that only 6.4% of respondents expressed their willingness to participate in an open access archive at no condition, and only one respondent claimed that have deposited in the open-access archives; although 61% percent of the respondents answered they were prepared to personally archive their own scientific materials on an institutional repository, if the conditions they request have been fulfilled [29]. However low interest in self-archiving, implies that authors have some concerns in depositing their work in repositories.” First of all some authors are worried about copyright because they transfer it to traditional publisher, then the publisher will typically not consent to deposit in open access archive. But it should noted that the author always has the copyright of the paper until that copyright has been transferred and so can always deposit
a copy before signing the copyright transfer form. Prior publication is the other problem they face, because some journals will not accept papers that have appeared in a repository (pre-print), while nearly all papers in high-energy physics appear on arXiv before publication and if journals attempted to enforce a 'no pre-publication' condition they would have no papers to publish. Also some authors are concerned with the possibility of plagiarism and the ease with which their paper could be copied and passed-off as another researcher's work if it is placed in the local repository. However, the same tools that allow a paper to be found and plagiarized allow the plagiarism to be detected. The others authors are concerned with the increased work-load of depositing papers,[20] although the Self-archiving takes only about ten minutes for the first paper and even less time for all subsequent papers.\textsuperscript{17} Nicholas, Jamali, and Rowland (2006) found that there are concerns about institutional repository on the quality of scholarly material, and some part of their respondent wanted a sort of peer-review process implemented in repositories \textsuperscript{18}. Anyhow the peer reviewed works with a quality stamp can be deposit in IRs \textsuperscript{21} and for the non peer reviewed work, as mentioned before readers are the main evaluators of them in open access repositories. Because" the meaning of a citation can be even more subjective than peer review"\textsuperscript{18} However the green strategy depends only on the research community \textsuperscript{12}. Since, still only 5% of journals are gold, but over 90% are already green (i.e., they have given their authors the green light to self-archive); yet only about 10-20% of

\textsuperscript{17} Self-Archiving FAQ 21 april 2008 from http://www.eprints.org/openaccess/self-faq/#self-archiving
\textsuperscript{18} http://openaccess.eprints.org/index.php?/archives/2008/06.html on 17 July 2008
articles have been self-archived [10]. Harnad an active promoter of the Open Access philosophy believe that in self-archiving, the ball is in the research community’s court. The sooner they provide access to their published articles; the sooner research communities will enjoy the benefits of maximizing their research impact by maximizing user access to the research output [11]. According to him research founders and institutions should mandate that all research findings must be made freely accessible to all would-be users, webwide[13], as research employers and funders, in the United Kingdom and the United States have recently recommended, and universities need to implement that mandate [10]. The Southampton- which host top ranking IRs- Department of Electronics and Computer Science (ECS) departmental mandate was the very first Green OA self-archiving mandate of all [23].

Current states of Institutional repositories (IRs) in Islamic countries
About twelve universities/institutions from five Islamic countries are leader in setting up the institutional repository. These countries are Turkey with five, Malaysia with three, Indonesia with two, and Bangladesh and Pakistan each with one repository that share output of their community with world.

Established: Finding of the study shows that, 50% of the repositories have launched in 2007, and also 33%, 8%, 8% have established in 2008, 2006, and 2005. However it seems more repositories has established in 2007 and 2008 in compare with two previous years. Ankara University Open Access Repository is the
earliest IRs, which has launched in April 2005. It should add that if establish year of the repository based on ROAR, DOAR, and related website has not been found, year of registration on ROAR has been considered as launch year of IRs.

Table 1. Establish year of repository

<table>
<thead>
<tr>
<th>Year of establish</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**: Approximately 60% (equal to seven) of the repositories have introduced as a research, institutional or departmental; and the next repositories introduced as a database & index, e-theses, disciplinary, and also one of them has not pointed out to the type of repository. It seems that, although some of the repositories establish in different type, but, in fact majority of them are institutional repositories, which disseminate output of their community.

Table 2. Type of repository

<table>
<thead>
<tr>
<th>Type of repository</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional or</td>
<td>7</td>
<td>60%</td>
</tr>
</tbody>
</table>
Number of record: Overall 15652 records have been deposited by nine repositories, and also three repositories have not mentioned to number of their collection. In the terms of number of content the Middle East Technical University’s E-Theses Archive from Turkey with 4800 deposited records is placed in first rank among Islamic countries.

Table 3.Number of deposited items

<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>Atatürk 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>
</tbody>
</table>
Type of content: Content of the repositories includes different types of scholarly work such as articles, conferences, books, presentation, multimedia, unpublished, and theses. However, it seems in Pakistan and Turkey there is a trend to deposit theses in repository. Furthermore, content subject in ten repositories is multidisciplinary, and only two repositories mentioned specific subjects.

Language: The study discovered that content language of 42% equal to five repositories is English and also the same present is mix (English & local language), but around 17% (two) repository were in local language.

Table 4. Language of content

<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>
</tbody>
</table>
Software of IRs: Around 42% (five) of repositories are using Eprint, and two universities have developed special software for their repository, and also one repository uses Dspace, while the other four repositories have not specified name of their software.

### 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>
</tbody>
</table>
| Total        | 12| 100%

Access to full text: findings showed that eight repositories provide access in full text, while two repositories have provided access in full text to only 84% and 75% of their collection. The other two repositories have some restriction in access to their
repositories collection, but they have not mentioned to 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 & Harvested by DOAR**

Finding of study indicate that of the ten repositories which have registered in ROAR, six (50%) repositories have harvested by Registry of Open Archive Repository (ROAR). It means that the OAI-PMH interface in these repositories are active, and the deposited record can be harvested by service providers. While, ROAR doesn't have successful harvesting in four repositories which have registered in ROAR; because, the OAI-PMH interface is not working. In addition the next two repositories only were listed by DOAR. Also ten repositories have harvested by DOAR. However when DOAR lists some repositories, it means that DOAR harvest them. Findings indicate that only five repositories which registered in ROAR and also harvested both by ROAR and DOAR. It means that they are retrievable through search engines. Beside this, three repositories which only registered in ROAR were harvestable by DOAR. One repository, in spite of registration and harvesting 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</td>
<td>1</td>
</tr>
</tbody>
</table>

Institutional repositories in Islamic countries: A brief description about the repositories in Islamic countries has been brought in the following part.

OA in Turkey: ANKOS (The Anatolian University Libraries consortium) established Open Access and the Institutional Repositories Working Group (OAIRWG) in January 2006 in order to raise awareness on Open Access and Institutional Repositories (IRs) among information professionals in Turkey. Beside this ANKOS is a member of The Scholarly Publishing and Academic Resources Coalition (SPARC) and aligns itself with the goal of SPARC on OA and IRs. OAIEWG requested the library community to use OA documents and IRs, and encourage authors in LIS to
deposit their work in open access archive like E-LIS [1]. Six Repositories from Turkey have registered in ROAR. While only three repositories have listed in DOAR. In this part of study, five repositories from Turkey have been studied.

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

[http://acikarsiv.ankara.edu.tr/](http://acikarsiv.ankara.edu.tr/)

Ankara University Open Archive Repository (AUOAR)- one of the first open access initiatives in Turkey- was formed as part of Open Access project in April 2005, with the aim of supporting scholarly research. University has constructed special software (Mikrobeta) for repository in July 2005. Since the early of 2006, the theses and dissertation, and published articles have been included in the archive with the permission of the authors. According to ROAR 3376 items has deposited in this repository up to 7th July 2008. Content of this multidisciplinary repository contains articles, conferences, unpublished, books, and learning objects in both English and Turkish languages. AUOAR has been registered in Open Archive Initiatives (OAI) in July 2006 to meet the criteria of the OAI-PMH protocols [1]. Interface of repository is in both English and Turkish. According to ROAR items of this repository is freely accessible in full text.

**The Middle East Technical University's E-Theses Archive**

[http://hitit.lib.metu.edu.tr/oai](http://hitit.lib.metu.edu.tr/oai)

In September 2003, the METU library theses and dissertations archive was established and since that time students have been submitting their theses in both print and digital(PDF). Since April

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2004, the METU library has been a member of NetWorked Digital Library and dissertations an initiative to increase sharing knowledge[1]. The METU Library Open Archives Harvester currently has 4800 papers from four indexed archives.21 Also according to ROAR of the 457 PhD and 2727 MSD Thesis %84 are open to the world, about %10 are open only to the university and other %5 have an embargo for two years, and also the repository registered as a e-theses type in ROAR. 22 This repository includes thesis and papers in different subjects in English and Turkish languages. The repository only has harvested by ROAR. There is no mention to name of repository software. This repository with 4800 deposited records is placed in the first rank among repository of Islamic countries.

Atatürk University Open Archive
http://acikarsiv.atauni.edu.tr

This repository has launched with participation of Information and Records Management Department in Atatürk University, and has registered in ROAR in 2008. Spacial software has been developed for repository based on international standards,23 interface is in English and Turkish, but there is no mention to the name of software. Content of this multidisciplinary repository includes articles, conferences, theses, books, and multimedia in both English and Turkish languages. According to ROAR records of this repository is estimated to be freely accessible in full text. But ROAR have not been successful harvesting to date. None of ROAR,
DOAR, and website of repository has talked about number of deposited records of the repository.\textsuperscript{24}

Gazi Open Archive

\url{http://www.acikarsiv.gazi.edu.tr/index.php}

This repository has registered as a database in 2007 in ROAR. Gazi University faculty can archive all kind of academic studies such as articles, theses, books, learning objects, and multimedia in the repository. ROAR estimate that items of repository is freely accessible in full text.

Gazi University Open Archive System is developed in conformance with OAI-PMH Standard.\textsuperscript{25} While ROAR report that OAI-PMH interface is not working, whereas no successful harvesting has been done yet. Interface is in English and Turkish; it is possible to browse this multidisciplinary repository by article, theses, project, and book chapter and lesson notes.

Sabanci University Research Database

\url{http://research.sabanciuniv.edu/}

Sabanci University members can deposit their work in this repository. Repository includes 1832 items up to 7\textsuperscript{th} of July 2008. User may set up Atom and RSS feeds to be alerted to new content. Eprint, free open source software has been launched on September 2007, and the interface is in English. Sabanci University Research Database supports OAI standards. Besides searching through interface, it’s possible to browse the hierarchy subject

\textsuperscript{24} \url{http://roar.eprints.org/} on 7th July 2008
\textsuperscript{25} \url{http://www.acikarsiv.gazi.edu.tr/index.php}
which is based on library of congress classification. According to ROAR this repository is 75% of the collection is freely accessible in full text, and content of repository includes articles, conferences, unpublished, and books.

**Malaysia:** About five repositories have registered in ROAR, While, DOAR has reported only three of them. In this study three repositories from Malaysia, which are based on operational definition of IRs- have been studied.

**PTSL UKM Repository**

http://eprints.ukm.my/

This repository provides access to the research output of the University Kebangsaan Malaysia (UKM), and has registered in 2007 as a research institutional in ROAR. The Eprint package is used as software, and the interface is available in English. The repository is based on OAI-PMH protocol. Totally 65 item such as articles and conference have deposited in this multidisciplinary repository up to 7th July 2008. Repository provides facility to search through interface and browse the hierarchy subject which is based on library of congress classification. Furthermore users may set up Atom and RSS feeds to be alerted to new content. ROAR estimate that items of repository is accessible in full text.

**University Technology Malaysia (UTM) Institutional Repository**

http://eprints.utm.my/

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This repository has registered in ROAR in 2007, and provides access to research output of academic staff and postgraduate students (both past and present) of University Technology Malaysia. This institutional multidisciplinary repository hosts all kinds of university publications and documents such as thesis, dissertations, research reports, conference proceedings, pre- and post-print journal articles, book chapters, monographs, lecture materials, learning objects, and more. ROAR estimate that deposited record are freely accessible in full text. Totally 4181 item (English and Malay) have deposited in repository up to 7th July 2008. Eprint software is used to organize the repository. The repository is based on OAI-PMH protocol.

UM Digital Repository

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

This institutional repository provides access to the output of the University Malaya, and has registered as a Research Institutional in ROAR early of 2008. Based on website of repository totally 31 items have deposited in repository up to 7th July 2008. While ROAR report no successful harvest yet and either the OAI-PMH interface is not working up to now (3rd of July 2008). According to ROAR deposited items are freely accessible in full text. Content of repository includes articles, conferences, and multimedia in different subjects.

Users may set up Atom and RSS feeds to be alerted to new content. Eprint software has adapted to run the repository, and the

30. www.roar.org on 7th of July 2008
interface is in English. The repository is based on OAI-PMH protocol. It’s possible to browse the hierarchy subject which is based on library of congress classification besides searching the repository by year, faculty, author/editor and type.  

**Bangladesh:** The only repository of Bangladesh has listed by DOAR. But it was not registered on ROAR.

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

[http://dspace.icddrb.org/](http://dspace.icddrb.org/)

This disciplinary repository that has registered in ROAR in 2008 provides access to research into Diarrhoeal Disease. Some records are only available to registered users. Repository hosted by International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), which is an international health research institution located in Dhaka. Totally 1395 items such as articles, conferences, and special in biology and biochemistry, health and medicine, and also library and Information Science in English language have deposited to date 7th July 2008.  

The repository apply Dspace package to deposit, manage and retrieval of documents.  

**Pakistan:** Only one repository from Pakistan has registered in ROAR.


34. [http://dspace.icddrb.org/](http://dspace.icddrb.org/)  

Pakistan Research Repository  
http://eprints.hec.gov.pk/
This repository has registered in 2006 in ROAR, and hosts by the Higher Education Commission of Pakistan. Content of this multidisciplinary repository includes full text of doctoral theses that produced in Pakistan. Overall 1129 PHD theses has deposited in up to 30th April 2008. According to ROAR content of repository are freely accessible in full text completely.  
Repository has powered by Eprint, it applies OAI-PMH protocol. The interface makes it Possible, deposited Items to be searched by year, subject, type, and institutions.  
This repository registered as a Research Institutional or Departmental in ROAR; in fact it is central repository for PhD thesis in Pakistan.

Indonesia: In this study two repositories from Indonesia will be described

Gunadarma University Repository  
http://repository.gunadarma.ac.id/
This institutional repository has deposited about 544 items until 7th of July 2008. This multidisciplinary Repository which, has registered in ROAR in 2008, is powered by Open repository software. Interface is in English, and it’s possible to browse the hierarchy subject which is based on library of congress


37. http://repository.gunadarma.ac.id/ on 7th of July 2008
classification. Users may set up Atom and RSS feeds to be alerted to new content.\textsuperscript{39}

**LIPI Institutional Repository (LIPI-IR)**

http://ir.lipi.go.id/

Institutional repository of LIPI has launched in 2007 which hosts by Indonesian scientific knowledge center. It aims to improve public access to the scientific information as a part of LIPI's commitment to support the global open access initiative. This repository provides access to the research output of research groups belonging to LIPI across Indonesia. Many items are not available as full-text. This institutional repository contains articles, references, theses, and special in science (general). There was no mention to the name of software, but the interface is in English. This repository has harvested only by DOAR.

**Conclusion**

**Introduction:**

In general the main characteristics of open access in both green and golden road, is free, digital, full text and without any restriction. With self-archiving (Green road) in institutional and central repositories that are OAI compliant archive, deposited items can be accessible web wide. In fact outstanding benefit of self-arching is impact factor, which lead to prestige of both author and institution; furthermore online CVs, long term preservation, facility for data-mining and text-mining are the other advantage of open access archives. On the other hand the main challenge in front of the

\textsuperscript{39}. http://repository.gunadarma.ac.id/ on 7\textsuperscript{th} of July 2008
repositories is attracting content. Unfamiliarity with concept, functions, and career benefits; lack of motivation to deposit and even inertia of author are among some obstacle for self-archiving. Besides this concerns of authors about copy right, pilgrims, prior to publication, and quality of deposited work are the barrier which cause to challenges in attracting content.

According to Organization of the Islamic Conference (OIC) about 57 countries are member in it. But of the total 57 Islamic countries, only some universities and institutions in five countries(Turkey, Malaysia, Indonesia, Bangladesh, and Pakistan) have set up repositories, but overall IRs among Islamic countries is at an infancy stage. In the terms of current statues of repositories in Islamic countries, however, even we consider all of the repositories which have registered in ROAR or have harvested by DOAR as open access archive, the number can be said that is very low. Of the 1093 repository which have registered in ROAR, only 15 (equal to 1.37% )of them belong to Islamic countries, and similarly of the 1100 repository has harvested by Open DOAR , only 11 of them(equal to 1%)of the repositories set up by Islamic countries.

On the other hand it should be said that, although some Islamic countries don’t have any repository in DOAR and ROAR; but it don’t mean that their scientific output is low.” For example, knowledge production and citation in Turkey and Iran overall is more than 50% among Islamic countries, and also Turkey, Iran, and Egypt are three Islamic countries which have important role in

scientific area among Islamic countries". Besides low number of repositories in Islamic countries, it seems they face with problem in attracting content, whereas deposited items in some of them is limited.

Perhaps unfamiliarity with concept, function and benefit of IRs among Islamic countries are the reason behind this low interest to IRs in both setting up and filling it. However institutions through setting up repositories and promoting their authors to self-archive in online open access repositories can be visible and accessible to world; this let to more citation and prestige of author and institution. The study showed that although, some repositories harvested by DOAR or registered in ROAR, but in fact they don't cover the definition of open access or institutional repository in this study. Some of them were only a digital library or had restriction in access to full text. Most of the repositories suffer from lack of policy; whereas most of them suggested by DOAR to update it.

Hence, institutional repositories need more attention from academic community; approximately every body (academic staff, researcher, student, librarian, manager, and etc.) in the scientific and academic community can have important role in this movement. For instance libraries by setting up and hosting institutional repositories, besides providing recourses to their users in the library, they also can disseminate out put of their communities through repository. Some of the repositories in present study besides searching through website of repository, they provide facility to browse hierarchy

subject that is based on library of Congress classification; which shows the role of library in setting up related repositories. The present study has certain limitations that need to be taken into account when considering the study and its contributions. The study has focused only on repositories which listed on Directory of Open Access Archive (DOAR) or registered in Registry of Open Access Archive (ROAR), which may not cover all of repositories. The other limitation is related to methodology; it is needed in depth qualitative and quantitative research emphasizing the challenges of existing repositories and also advantage and benefits repositories for institution and researchers, to promote lunching new repositories in Islamic countries.
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