Summary

This case study describes the implementation process of the Open Access institutional policy at the University of Minho (UMinho), Portugal. Starting with a brief introduction about the institution, in terms of its academic community and research, the document then provides a detailed description of the steps taken to implement the UMinho’s institutional repository (the IR) and the Open Access policy. We highlight the main goals which oriented the implementation of the repository, the devised communication plan, the value-added services created for authors, and finally, the engagement within the international community in these areas.

Regarding the Open Access policy, we present a brief summary of the main points of the self-archiving policy, approved late 2004, and also point out the main additions to the policy when it was upgraded in 2011.

This case study also provides some figures and tables about the results of the various monitoring processes carried out by the University of Minho Documentation Services to follow-up and measure policy compliance.

In summary, since the beginning of 2004 with the IR implementation, several initiatives have been taking place with the purpose of increasing the number of deposited documents. The Open Access policy adoption was, definitely, the main success factor amongst all the other initiatives and efforts.

1. Introduction

The University of Minho1, situated in the Minho region of Northern Portugal, was founded in 1973 and began its academic activity in 1975/76. The University is a public research performing organisation with two campuses: one in Braga and the other in Guimarães. UMinho has grown to around 190002 students, 40% of whom are graduate students, over 1098 academic staff and 602 non-academic staff.

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1 University of Minho http://www.uminho.pt
For the 2014/15 academic year the institution was running 58 undergraduate courses, 112 masters and 50 PhD courses covering a large number of subject areas. Until now, the University of Minho has produced more than 19000 scientific papers in total (in 2013, 1,995 were indexed by Scopus and 1.311 by ISI-WoS – see Table 1).

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portugal</td>
<td>13731</td>
<td>15440</td>
<td>17834</td>
<td>19549</td>
<td>21093</td>
<td>87647</td>
</tr>
<tr>
<td>Total UMinho</td>
<td>1154</td>
<td>1355</td>
<td>1549</td>
<td>1860</td>
<td>1995</td>
<td>7913</td>
</tr>
<tr>
<td>UMinho contribution</td>
<td>8,4%</td>
<td>8,8%</td>
<td>8,7%</td>
<td>9,5%</td>
<td>9,5%</td>
<td>9,0%</td>
</tr>
<tr>
<td>Portugal annual growth (%)</td>
<td>12,4%</td>
<td>15,5%</td>
<td>9,6%</td>
<td>7,9%</td>
<td>11,4%</td>
<td>11,6%</td>
</tr>
<tr>
<td>Total UMinho annual growth (%)</td>
<td>17,4%</td>
<td>14,3%</td>
<td>20,1%</td>
<td>7,3%</td>
<td>14,8%</td>
<td>15,6%</td>
</tr>
</tbody>
</table>

**Table 1: Evolution 2009-2013 of nº of documents (all types) Scopus and ISI WoS – compared Portugal and UMinho**

The institution is organised into 11 schools and 33 research centres, which are sub-units of the various teaching and research units. These research centres are funded by FCT (the Portuguese public research funder), five of which are integrated into Associated State Laboratories.

### 2. Repository

The University of Minho Documentation Services (SDUM) developed the idea of institutional repository for Minho University at the end of 2002. Shortly after, in the beginning of 2003, a new national programme called e-U (Electronic University) was initiated by the Portuguese government aimed at building infrastructures, services, and communication networks to facilitate the production and interchange of knowledge between Portuguese universities.

UMinho Documentation Services saw in this programme an opportunity to support the creation of the institutional repository and proposed it to the Rector, who fully supported the idea. The proposal was submitted and, with the Rector’s agreement, SDUM didn’t wait for the funding approval but started the project almost immediately in 2003.

The main goals established for the UMinho IR implementation were the following:

1. Maximise UMinho’s research impact both nationally and internationally;
2. Preserve its institutional intellectual heritage;
3. Contribute to the improvement of the management of research information at UMinho.

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At that time, it was decided to use the DSpace platform because its architecture and its community model and open source approach suited the needs of the institution. The software was translated into Portuguese and the layout design was adapted. Hereafter, the academic community was invited to participate. In June that year, several recently graduated PhD and MSc students were invited to deposit their theses, and in September six departments and research centres were invited to become pilot communities, and to deposit their conference papers, journal articles, and other document types. On the 20th November 2003, the UMinho institutional repository, called RepositóriUM⁴, was publicly released with a total of 280 documents.

In the following year, the focus was to increase, significantly, the number of deposited items and the number of departments and research units using the repository, and to promote its visibility and usage both inside and outside the institution. Despite all efforts, the number of communities and documents was growing more slowly than initially foreseen.

In order to improve this situation, a new strategy was formulated based on four components: (1) develop a communication plan for RepositóriUM and Open Access in general, (2) develop value-added services for authors, (3) become further engaged in the international community (e.g. developing DSpace add-ons, participating in international conferences and meetings, and promoting several initiatives regarding OA mainly in Portuguese and Spanish speaking countries), and finally (4) define a self-archiving policy.

3. Policy

A turning point for RepositóriUM occurred in the autumn of 2004, when a new Open Access policy was proposed to the UMinho rector. The rector discussed this with the Presidents of the Schools Council and in late November, a symbolic date marking the first anniversary of RepositóriUM, signed the Berlin Declaration⁵ and most important of all approved and announced a self-archiving policy for UMinho. The self-archiving policy for UMinho stating that all scientific work produced by its members should be deposited in the RepositóriUM was put into practice starting from January 2005 and can briefly be summarised as follows:

- All academic staff and researchers from University of Minho authoring or co-authoring of any type of published work should deposit those publications in the institutional repository of the University of Minho and grant permission for the dissemination of the resources via Open Access;

- All organic units of the University of Minho should subscribe to this policy or adopt self-archiving policies for their own research output;

- All authors of theses and dissertations approved by the University of Minho should authorise their deposit and dissemination through the institutional repository.

After the policy public presentation, it was decided that during the year of 2005 a financial incentive would be distributed to departments and research centres as a reward for their commitment to the implementation of the policy. The policy also established the criteria for the awarding system, attributing more weight to peer-reviewed publications from the current/previous year (and lower weight to “older” or non-peer-reviewed publications) and

⁴ RepositóriUM https://repositorium.sdum.uminho.pt/
distributed the financial incentive to departments and research centres, not directly to individual researchers. This encouraged the interest and participation of department and research centre directors whose units stood to benefit considerably financially if they could increase policy compliance.

To stimulate the early adoption of the self-archiving practice, the reward was distributed according to the number of documents archived along three distinct time spans: 42% of the reward would be given according to the number of self-archived documents by April 2005, 33% according to the number of documents archived between May and August 2005, and 25% according to the number of documents archived from September to December 2005. As a result, from 1 January to 31 December 2005, 2,813 documents had been deposited in RepositóriUM: 41% of these were journal articles; 40% were conference papers; and 19% were other types of documents (book chapters, books, working papers, etc.).

In 2006, the rector issued additional financial support (about 1/3 of the value of 2005) to be distributed according to the same rules as the previous year. As a result, in 2006 an additional 1,885 documents were deposited in the repository. 92% of those were self-archived by the authors themselves, while the rest (315 documents, mainly theses and dissertations) were deposited administratively by Documentation Services staff. Since the beginning of 2007, the financial incentive to self-archiving ended and the IR has been operating without it since then.

From 2007 there was a slowdown in RepositóriUM growth and regression of the percentage of UMinho’s scientific production being deposited in the IR (see the following graphic). The reasons for this are manifold and range from a period of financial difficulties, changes and institutional instability experienced by UMinho between 2007 and 2009, to the lack of institutional guidelines and tools to monitor and encourage compliance with the institutional policy of self-archiving. In addition, the SDUM team experienced difficulties and limitations in responding to all the tasks and challenges posed by the development of RepositóriUM, particularly in a context of increasing demands and involvement in external activities related to repositories and Open Access.

![Figure 1: Self archived documents per year (2003 – 2010)](chart)

The experience also demonstrated that the level of compliance with the institutional self-archiving policy established by UMinho since 2005 showed wide variations between the teaching and research units (UOEI).
and even within the same UOEI. In this sense, considering the strategic interest of UMinho to continue and deepen its rich experience in the field of Open Access, it was considered essential to upgrade the institutional self-archiving policy in order to make it more effective and ensure a wider compliance. Thus, in 2010, it was proposed to the new Rector of UMinho that there should be a further upgrade to the institutional policy. This proposal was accepted and starting from 2011 onwards the new UMinho policy has required that:

“All academic staff to mandatory deposit into RepositóriUM a copy of all peer reviewed publications dated after January 2011; From January 2011, all official publication lists or reports, from individual researchers and research units, submitted internally at UMinho, must contain a link to the version archived at RepositóriUM.”

The revision of the original policy can be considered a major breakthrough, because this mandate established a connection between the deposits and the evaluation procedures for the UMinho teachers and researchers. In future RepositóriUM will be the only information source about publications output, providing these data to the overall university information system that will support all reporting, management and evaluation activities in the university.

4. Policy support

Since 2004, as part of the mentioned strategy, SDUM manages and provides an IR liaison service aimed at supporting the UMinho community (providing training sessions, and a helpdesk service), developing advocacy materials, and monitoring the policy compliance and also the quality of the deposited metadata.

In terms of developing value-added services for authors, and subsequent further engagement in the international community, the UMinho has been engaged in the development of some add-ons for DSpace, such as the ‘Statistics Add-on’ for providing information about accessibility and usage (access/downloads) of deposited documents, the ‘Request a Copy’ enabling users request a restricted document copy directly from the authors by sending an email, as others add-ons (e.g. ‘Suggest item’, ‘Controlled Vocabulary/Ontology’, ‘Commenting’), which have been integrated in the core code of DSpace or have been discontinued.

The RepositóriUM website makes available a set of resources about the UMinho OA policy, the RepositóriUM itself, and also about copyright issues. Apart from this the Documentation Services publishes in a regular basis news about the Open Access in general as well as informs the community about national and international initiatives where the UMinho participates or is involved.

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7 RepositóriUM Statistics on access/downloads are available at: https://repositorium.sdum.uminho.pt/stats?level=general&type=access&page=downviews-series
9 https://wiki.duraspace.org/display/DSPACE/Extensions+and+Addons+Work
10 RepositóriUM content support available at: https://repositorium.sdum.uminho.pt/?locale=en
11 OpenAccess@UMinho available at: http://openaccess.sdum.uminho.pt/
5. Policy monitoring

Since 2011, policy compliance is ensured through a monitoring process which collects data from two main information sources: internal documents (e.g. research centres and departmental list of publications, etc.) and international databases (ISI Web of Science and Scopus). This process intends to identify publications affiliated to the University of Minho and check if these publications are or not already deposited in the institutional repository. In order to minimise the effort involved on the monitoring activities several strategies/tools are being used, such as creating search alerts and using reference management software (e.g. EndNote and/or Mendeley) to compile publication lists and compare those lists with deposited items in RepositóriUM.

The periodic monitoring of the policy is done three times each year (March, July and November) and has proven to be an important contribution to the compliance with the policy, because there is a very significant increase of self-archiving after the notification of the results within the academic community. Regarding the 2014 UMinho publications, by the time of the final monitoring (January 2015), it was estimated that 62% of the UMinho scientific output were deposited in RepositóriUM.

![Figure 2: Compliance levels during the policy monitoring periods in 2014](image)

![Figure 3: Self archived documents per year (2003 – 2014)](image)
Currently, the RepositóriUM content guidelines only allow works (co)produced, submitted or sponsored by University of Minho, researchers or staff. Some current facts are listed below:

- SDUM doesn’t deposit items on behalf of researchers, but nevertheless can mediate and support communities in order to recover missing research outputs;

- Theses and dissertations are delivered to the library electronically or on CD-ROM for incorporation into the IR once submitted and successfully approved;

- For all outputs the deposit cannot be waived and Open Access should always be the preferred choice. However, it is up to the authors to decide the type of access accordingly to copyright restrictions /embargos that apply. The embargo period options are: 6 months, 1 year, 2 years or 3 years (the last one more applied to theses and dissertations). 84% of authors make their work available Open Access, and 9% choose embargos of up 3 years;

- Considering the last policy monitoring (2014), some research centres are delivering 15-20% (e.g. Law and Psychology subject areas) and others are reaching remarkably 80-90% of their annual academic output (e.g. Biological Engineering and Civil Engineering subject areas);

- There are only full-text deposits in the RepositóriUM, metadata-only records are not permitted;

- Regarding research data, an internal survey was conducted in 2014 to evaluate the research data produced at UMinho\textsuperscript{12}.

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\textsuperscript{12} Report on types of research data produced at UMinho in Portuguese available at: http://repositorium.sdum.uminho.pt/handle/1822/29948
In conclusion, UMinho has been making fine adjustments from time to time that have contributed to the success of the policy. The key steps that improved success in raising compliance levels are summarising in the table below:

<table>
<thead>
<tr>
<th>Key steps</th>
<th>Effects</th>
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</thead>
<tbody>
<tr>
<td><strong>2003: RepositóriUM was publicly released</strong></td>
<td></td>
</tr>
<tr>
<td>Communication plan developed (2004)</td>
<td>• Got support and commitment from the University leadership (making OA/IR a part of the institution strategy).</td>
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<td></td>
<td>• Promoted IR, and the deposited OA content, inside and outside of the institution.</td>
</tr>
<tr>
<td>Value-added services developed (2004)</td>
<td>• Got involvement and commitment from researchers, departments and research centres.</td>
</tr>
<tr>
<td>DSpace add-ons developed (2006)</td>
<td>• Facilitated / rewarded deposit / self-archiving.</td>
</tr>
<tr>
<td>Participation in international conferences, meetings and interest groups</td>
<td>• Increased the engagement and the visibility of UMinho in the international community, i.e., to proactively participated in the Open Access, IR and DSpace communities worldwide.</td>
</tr>
<tr>
<td>(e.g. DSpace Community)</td>
<td></td>
</tr>
<tr>
<td><strong>2004: Self-archiving policy approved and announced</strong></td>
<td></td>
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<tr>
<td>Financial incentive introduced (2005)</td>
<td>• Increased awareness and commitment to the implementation of the policy (the incentive was distributed through the research centres / departments, and not directly to the individual researchers).</td>
</tr>
<tr>
<td>Financial incentive ended (end of 2006)</td>
<td>• The incentive was finished later 2006, since then, the RepositóriUM has been running without any financial incentives.</td>
</tr>
<tr>
<td><strong>2010: Self-archiving policy upgraded</strong></td>
<td></td>
</tr>
<tr>
<td>Mandatory policy introduced</td>
<td>• All official lists of publication or reports must contain a link to the version at repository. In the future RepositóriUM will be the only information source of research output, which will support reporting, management and evaluation activities at the university.</td>
</tr>
<tr>
<td>Quarterly monitoring of the policy compliance</td>
<td>• Increased significantly the compliance levels and self-archiving activity after the notification of the results within the academic community.</td>
</tr>
<tr>
<td>(Since the end of the 1st quarter 2011)</td>
<td></td>
</tr>
<tr>
<td>Open Access website</td>
<td>• Allowed to disseminate OA activities within the community</td>
</tr>
<tr>
<td>Embed, integrated, and interoparated the repository with other relevant</td>
<td>• Facilitated the deposit and integration of new publications</td>
</tr>
<tr>
<td>information systems (institutional, national, global)</td>
<td></td>
</tr>
</tbody>
</table>

*Table 1 - Key steps that improved the compliance levels with the UMinho OA policy*