

OAR@UM and Open Access in Malta: Five Years On

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Abstract

The paper looks at the development of Open Access (OA) in the smallest EU member state of Malta over the course of the past five years. Aside from providing a chronological overview of key activities undertaken within the above specified period with the goal of putting the underlying theoretical principles of OA into practice, it places an emphasis on OAR@UM, the University of Malta (UM) Institutional Repository (IR) as the backbone of OA in Maltese Islands. The paper provides a direct link between the technological expansion of the IR and its growing importance to the local and worldwide academic community, while pinpointing and discussing the key aspects of its success and identifying the possible future course of local OA solutions.

Keywords: *Open Access, Institutional Repositories, OAR@UM.*

Introduction

Open Access (OA) is considered to be one of the six main pillars of Open Science (OS) - a practice whose sole purpose is to make every kind of scientific and research information available in a free and unrestricted form to all interested parties, ranging from an inquiring amateur to an established professional seeking to change the status quo in a particular field (Kasberger, 2013). Whereas the history of OS can be traced back as far as the advent of an academic journal in mid-17th Century, OA is a much younger concept in comparison. Its early origins are firmly intertwined with the emergence of the Internet within the academic sphere in the 1970s when the computer scientists began self-archiving (and in doing so effectively disseminating) their works using anonymous File Transfer Protocol (FTP) archives. The last two decades of the 20th Century and the beginning of the new millennium saw a widespread adoption of the core principle of OA - providing free and unrestricted access to the research literature - and its division into two primary forms: Gold OA and Green OA. In case of the former, the vehicle for the OA is the journal itself, produced by a commercial publisher or sponsored by a third party such as a research institution or a fund, whereas the latter requires the author to

self-archive their work in an institutional or subject repository upon publication (or acceptance for publication) in a conventional, pay-per-access journal to achieve the desired unfettered access and visibility (Suber, 2012).

The history of OA in the Maltese Islands is inadvertently tied to OAR@UM, the University of Malta's Institutional Repository (IR). Prior to its launch in September 2014, certain efforts at adopting OA could be observed - some academics self-archived their published as well as unpublished work on their personal websites, or published in prominent Open Access journals, and even a considerable number of local scientific journals, such as Xjenza, International Journal of Emotional Education, Malta Medical Journal, or Journal of the Malta College of Pharmacy Practice, offered their full text content online for free - however, these efforts were principally isolated, lacking institutional structure and oversight. This meant that the bulk of the research outputs produced under the auspices of the UM was available either through subscription-based databases, print journals and monographs, and materials in the UM Library's Melitensia Collection, or not at all.

Over the course of the following five years (2014 - 2019), many of these materials have been deposited in OAR@UM. The IR itself underwent a significant expansion, both in terms of a variety of content which includes research papers, dissertations, conference proceedings, audio files, and many more, and technology, being integrated with international structures and improving its features via the latest software upgrade. The following text aims to provide a brief chronological account of the key milestones in the five-year evolution, along with a detailed overview of OAR@UM, and more importantly, to discuss its value for Maltese academia and identify the key aspects of its success.

Key milestones

If we consider the implementation of OAR@UM as the starting point of the *official* history of OA in Malta, it is important to briefly explain the circumstances under which this was accomplished. As the single highest education institution in the country, the UM faced two considerable challenges when preparing a solution that would abide by the OA principles, not only at the institutional level, but also - given the unique characteristics of Malta - a national scale. First was the fact that by 2014, when the discussions pertaining to adopting an OA solution were under way, there had already been a considerable amount of already published research outputs in need of dissemination; while the second obstacle lied in the lack of available funding. Taking this into account, a decision was drawn to create an IR, following the examples of numerous foreign institutions.

Ahead of the implementation stage, the UM Library conducted an institution-wide survey in order to ascertain the local academics' attitude towards OA in general as well as their opinion in regard to having an IR at the UM. The responses,

collected from 408 participants (which at the time represented nearly half of all academics), showed that the majority was not only in favor of OA ideology and the IR, but also greatly interested in depositing their publications in it. Moreover, the majority of respondents declared interest in doing this themselves, via a self-deposit, as opposed to seeking assistance with the procedure from the Library staff.

Having obtained such optimistic results, the UM Library proceeded with launching the IR, branded OAR@UoM, in September 2014 (it was later renamed to OAR@UM following the rebranding of the UM), utilising an open source repository software package DSpace (version 4.1).

The first event of national importance pertaining to Open Access and Open Access Publishing was *Open Access and its Impact on Research and Scholarship* - a conference hosted by the UM Library, in collaboration with organising teams from the EU-funded FOSTER (Facilitate Open Science Training for European Research) project, in May 2015. Apart from promoting OAR@UM and encouraging the local academics to deposit their publications, the rich conference programme also addressed issues such as Open Science and Citizen Science, and underlined the benefits of OA for the dissemination of research.

In order to put more emphasis on OA and to tackle the growing number of publications awaiting deposit in OAR@UM, the UM Library Management created a brand-new department at the Main Library in January 2017: the Open Science Department (OSD). The department is responsible for promoting OS, supporting the processing and uploading of research output on OAR@UM, and providing support and advice on copyright clearance, licenses, embargo periods, and any other issues pertaining to OA publishing. To this end, the OSD established close relations with other UM bodies, including the UM Legal Office and UM Knowledge Transfer Office.

Concurrently with the launch of the OSD, works were under way to develop an official OA policy for the UM which would provide precise definitions of all terminology related to OA, and clearly identify the responsibilities of each stakeholder involved, including the UM, the individual academics, and the UM Library. Furthermore, the policy would also tackle copyright issues, waiver periods, and embargo options. Initially, the UM planned to implement the policy with a deposit mandate - as defined by Suber (2012) - making it obligatory for academics to deposit a copy of their paper in OAR@UM upon acceptance for publication; however, after receiving critical feedback, it was eventually put into effect in late summer 2017 as an encouragement policy.

In January 2018, the UM Library hosted another national workshop, entitled *Open Access in Practice: Dissemination, Visibility, Usage and Impact of Scholarly Research*. The workshop was organised in collaboration with OpenAIRE, a pan-European project aimed at supporting the implementation of OA policies across EU member states, and featured both local and foreign speakers, who addressed a wide variety of issues, including research data management, data sharing, OS in context of innovation, and more. A particular emphasis was put on UM's OA Policy and its

alignment with OpenAIRE. The event was successful in promoting OA and OAR@UM and attracting more Maltese researchers to contribute to the repository.

Lastly, in June 2019, OAR@UM itself underwent a technical upgrade from its initial version 4.1 to the latest released stable version 6.3. The new release introduced not only an improved, more intuitive user interface, but also better compatibility with the UM website, advanced navigability, enhanced bibliographic description and new functionalities.

The expansion of OAR@UM and its importance to the Maltese academic community

Over the course of its five-year existence, OAR@UM has amassed a significant number of different materials. As of 31st July 2019, its collection consisted of 38,448 items, out of which 15,085 were articles (the most prevalent type of material in OAR@UM), 9,732 dissertations, 2,106 conference objects, and 558 books. 22,658 out of these items were made available in OA, ensuring the worldwide visibility of both the metadata and the full text, which represents 59 percent of their total amount. The total number of contributing authors reached 29,934.

Aside from its massive quantitative growth, OAR@UM also drastically improved in terms of the variety of materials which directly increased its significance and relevance for different groups of users. The addition of a collection dedicated to Maltese journals allowed their publishers to archive their content in an environment substantially more stable, reliable, and versatile than either their original paper setting or a basic website. In fact, the Maltese journal collection currently features a total of 67 titles, including prominent publications across the fields such as Xjenza, Malta Medical Journal, Antae, Melita Historica, and many more. Owing to the established agreements with the editors, the latest issues are added within a very short period of time after their publication, greatly enhancing their impact and readership.

Furthermore, OAR@UM features several sub-communities and collections dedicated to accommodating digitised items from the Library's Melitensia department and Fine Arts collection, including valuable donations, as well as documents specific to the cultural heritage. This elevates the role and importance of OAR@UM far above that of a simple IR, making it a platform suitable for preserving national digital heritage. As an example, we can mention the vast collection of the UM School of Performing Arts which holds digitised documents and ephemera related to the history of performing arts in Malta.

One of the key characteristics of the OAR@UM platform is transparency. The entire content of the repository is indexed by the library discovery system HyDi as well as commercial search engines such as Google and Google Scholar, ensuring its discoverability by not only the UM's staff and students but every interested party,

regardless of their affiliation or location. Moreover, OAR@UM serves as a data provider for the Open Archives Initiative (OAI) Service providers, specialized OA tools/web-based platforms that employ the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) to gather metadata records of primary items from various repositories, archives, and data storages. The metadata is subsequently used as a basis for a central, fully-searchable database, equipped with a wide array of additional functionalities, which allows for a better, more complex research experience on the side of the end-user, while simultaneously increasing the visibility and impact of the authors and their work.

As of now, OAR@UM is integrated with three OAI Service Providers which are also considered to be the most voluminous and successful: the OpenAIRE portal, BASE: Bielefeld Academic Search Engine, and CORE: Connecting Repositories. It is interesting to note that while the OpenAIRE portal and BASE harvest only the metadata - in case of the latter it is even the entire metadata content of OAR@UM, updated on a weekly basis - CORE actually also collects the associated full text files, which expands the above mentioned benefits for all interested parties even further (Knoth & Zdrahal, 2012).

The above listed characteristics clearly demonstrate the value OAR@UM brings to the Maltese academia as well as the general public. For the end-users, the IR represents an invaluable resource, which - unlike the vast majority of resources available at the UM and research institutions in general - is fully independent of licensing agreements and subscriptions, lending itself to an immediate and indiscriminate use. Furthermore, it brings forth a bulk of information that would otherwise remain invisible and inaccessible: the unpublished, grey literature. When it comes to authors and creators, on an individual level, the researchers can benefit from enhanced visibility and an increase in the number of citations of their work, better chances of establishing collaborations with colleagues in the same scientific area, and the long-term preservation of deposited materials. On an institutional level, the presence of the repository elevates the international prestige of the UM, and has a proven direct positive impact on its position in the Webometrics World Ranking of Universities. In fact, over the course of the latest five-year period, the UM moved from 1257th position (July 2014) up to 866th place (July 2019), largely due to the OAR@UM's growth (Cybermetrics Lab, 2004).

Discussion

Whilst focusing on OAR@UM as the primary vehicle for OA, it is important to identify the key elements of its success in the local settings.

It comes as no surprise that one of the critical aspects is the technical side of the IR. OAR@UM utilises DSpace which is a highly versatile and customizable software solution, allowing for an easy back-end management (creating communities, sub-

communities and collections, amending metadata records, moving items between collections, etc.) even for librarians who do not possess advanced IT and programming skills, and quick and streamlined depositing process for anyone involved in the uploading of materials. Furthermore, DuraSpace - the developer for DSpace - provides a variety of supporting materials, including a wiki featuring frameworks and detailed documentation regarding the implementation and maintenance of the IR, and a public forum that gives the experts from all corners of the world the opportunity to discuss the newest technical issues and the institutional users the chance to reach out for assistance.

Promotion and marketing need to be emphasized as the next, equally indispensable aspect of OAR@UM's success throughout the years. Aside from the one-off events, such as the aforementioned national workshops, the Library participates in an international Open Access Week, a global event which takes place on an annual basis in October. The Open Access Week features lectures and workshops delivered by both local and foreign experts that target specific aspects of OA, OS and OA publishing, and ultimately serves to raise awareness of the subjects among the local academics. Moreover, since its conception at the beginning of 2017, the OSD has been publishing a monthly newsletter *OAR@UM Update* featuring up-to-date quantitative data that document the IR's growth as well as pertinent information related to OA and academic publishing, including tools such as Google Scholar Author Profile, ORCID identifier, Sherpa/RoMEO database, and more. Information pertaining to the newest additions to the OAR@UM's collections and a separate section entitled *Open Access Fact of the Month*, both created by the OSD, also form part of the UM Library newsletter *Newspoint Extra* which is similarly released every month.

As a part of the promotional activities, the regular OAR@UM workshops, organised in collaboration by the Library's OSD and the Outreach Department, need to be mentioned as well. The training sessions that take place on a group or individual basis are divided into two parts: the first serves as a brief theoretical introduction into OA and OA publishing, defining the fundamental terminology and outlining the contemporary situation in Malta, while the second provides an in-depth look at the front end of OAR@UM, along with step-by-step instruction on the depositing process.

Last but not least, the success of OAR@UM as an OA solution is irrevocably dependent on the cooperation of academics themselves. The collective attitude toward OAR@UM remains positive and more and more academics are coming on board with the idea of having their work available in OA, as demonstrated by an internal inquiry which is being carried out by the OSD; however, it is interesting to note that the personal involvement in the initiative is still fairly low. Whereas there is a considerable number of researchers who are very active and upload research papers on a regular basis via self-deposit, passivity prevails with the great majority of them. On the other hand, when asked by the UM Librarians to grant permission

to upload research papers on their behalf, a 100% feedback has been received so far, with the academics forwarding the requested soft copies or allowing for a download from their ResearchGate profiles.

It is safe to say that over the course of the past five years, thanks to its quantitative and qualitative growth, OAR@UM has contributed significantly to turning the OA principles from theory to practice, not only at the institutional level, but also on a national scale. The work is, however, far from over as there are several areas that lend themselves to improvement. Firstly, whilst having an official OA Policy in place goes a long way in helping to populate OAR@UM and in doing so, elevating the position of the UM in the world, the fact is that policy cannot guarantee the deposit of every single work published under the auspices of UM on account of it being merely a soft, encouragement type of document. Secondly, despite all its technological advantages and the recent upgrade, OAR@UM is not, in fact, yet well integrated with major services offered by both the UM and third parties, such as RefWorks, the bibliographic management software, the UM directory profile, or social media. Thirdly, the Open Data are so far not accepted for inclusion in OAR@UM.

As for the future, the projects tackling some of the above listed issues, including the inclusion of Open Data and improving the integration of OAR@UM with the UM services as well as registering the repository with more OAI Service providers, are already in the pipeline. As it is unlikely for another IR to be launched, and the UM does not yet have a structure in place to support the Article Processing Charges required for Gold OA, OAR@UM will, for the time being, remain the primary OA solution for Malta.

References

- Cybermetrics Lab (2004). Webometrics Ranking of World Universities. Retrieved from: <http://www.webometrics.info/en>
- Kasberger, S. (2013). Open science. Retrieved from <http://opensciencesap.org/openscience/>
- Knoth, P. and Zdrahal, Z. (2012). CORE: Three Access Levels to Underpin Open Access. D-lib Magazine, 18(11). Retrieved from: <http://www.dlib.org/dlib/november12/knoth/11knoth.html>
- OpenAIRE Consortium. (2009). OpenAIRE. Retrieved from <https://www.openaire.eu/>
- Suber, P. (2012). Open access. Cambridge, Mass. [u.a.]: MIT Press. Retrieved from http://bvbr.bib-bvb.de:8991/F?func=service&doc_library=BVB01&local_base=BVB01&doc_number=025244766&sequence=000001&line_number=0001&func_code=DB_RECORDS&service_type=MEDIA

Bio-note

Martin Lochman is an Assistant Librarian at the Outreach Department of the University of Malta Library. His work is mainly focused on promoting Library services, conducting training sessions on HyDi and RefWorks and working with OAR@UM. His main areas of interest include Open Access, institutional repositories and OAI service providers. He has published several articles on digital libraries and OAI service providers in Ikaros – the Electronic Journal on Information Society and on the De Gruyter blog Openscience.com. Mr Lochman holds a MSc in Library and Information Science (magna cum laude) as well as a BSc in Media Studies, both obtained at Charles University in Prague.