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Open Access Marketing at the University of Malta : A case study of how the University of Malta Library set up The Open Science Department to help market and promote the Open Access institutional repository – OAR@UoM

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Abstract:

In 2014, the University of Malta Library (UM) launched its Open Access Institutional Repository - OAR@UoM. Since OAR@UoM is the first and only online Institutional Repository (IR) on the Maltese Islands, it also plays a major role to promote Open Access (OA) nationally, and to form partnerships with other stakeholders who lack the infrastructure but are interested to deposit in OA. The Outreach department of the University of Malta Library was tasked with promoting OAR@UoM, and also develop training workshops to instruct academics on how to upload their research, whilst providing some background information on OA and the benefits associated. A number of promotional materials were created and disseminated on campus to help increase the awareness of OA and OAR@UoM. During the yearly OA week (October) on Campus, the Library organizes a number of OA related activities, talks and discussions

After providing academics with monthly workshops on the benefits of OA and showing them how easy it is to upload on OAR@UoM, only a handful of academics have actually uploaded their publications (or their research outcomes). In 2017, with the OA Policy being in its final stages of approval, the University of Malta Library decided to set up an Open Science department to better organize the workflow related to OA and submission of items on the IR. Thus, the contributions of academics from the UM for the time being depends entirely on their views on the usefulness of the IR. Consultations with local academics on their views on the IR show that the most popular reasons they are mentioning as obstacles for submitting work, are copyright issues or specific agreements with publishers, or not having the time to submit. This is evident from a number of comments from academics during training workshops held between 2014-2017 by library staff members. Since the Open Science department is a relatively new department, the research will look into its creation and development and focus on its impact on the UM research community. This paper will explore the duties and role of the OS department in collaboration with the Outreach department to promote and market OA in Malta.

Keywords: Open Access, Insitutional Repositories -- Malta, Open Access Repository @ University of Malta (OAR@UoM), Library Marketing, Open Access Publishing -- Malta.

1.0 Background

1.1 The University of Malta Library

The University of Malta (UM) caters for over 14,000 students and employs over 1,200 academics and administrative staff. The University of Malta Library (UML) is a multidisciplinary library catering for all the courses offered by UM. Consequently, to meet the needs of the users effectively, the UML has a number of branch libraries specifically catering for specific subjects and courses. These include the Health Sciences Library, located at Mater Dei Hospital, which caters for students and/or researchers who need medical or health related information; the Junior College Library, which supports pre-university students studying at the G.F. Abela Junior College; the University of Malta Gozo Campus, for students undergoing courses offered by the University branch in Gozo; the Valletta Campus Library situated at the Old University Campus in Valletta, catering for International and Masters of Arts students; the Laws and Theology Library situated at the Faculty of Laws and Theology; the Faculty of Arts Library specifically equipped to provide information related to humanities and arts. All of these branch libraries depend on the main campus Library, especially when it comes to promotion and outreach.

With the rise of the Internet and Web 2.0 technologies, one can find readily available information with just a click of a button. This somewhat affected the academic library; thus to make itself visible, the library had to adopt different strategies to market its services to all university students. Since academic libraries spend a large amount of money on services, the use of good marketing tools is essential to justify its validity and the use of resources (Kennedy Hallmark et al., 2007). To this effect, an Outreach Department was created at the UML in 2012; with the main aim to market the library's services, provide training to UM patrons on various resources available and promote the UML as a space for study and research. This was also a result of the decrease in the number of students utilising the libraries' resources. The UML invests thousands of euros in subscriptions to online databases. It provides a vast range of online journals and articles that cater for all the subject areas being taught at the UM. Part of the Outreach Department's aims, is to promote new services while assisting users in their search for information as well as tackling customer care issues. The department is responsible for identifying gaps in the library services and providing ways for improvement and also to establishing meaningful relations with the UM patrons. Outreach services help to improve the library's image and to effectively communicate the library's mission statement; that is as an institution committed to support the University's teaching and research programs by providing adequate scholarly information resources, emerging technologies and user support services (University of Malta, 2015). For this reason, it was up to the Outreach Department to come up with training workshops and events when it was time to inform UM academics and researchers about Open Access (OA) and the launch of the new institutional repository (IR) - OAR@UoM.

1.2 Why is Open Access so important?

“Open Access” to information is the free, immediate, online access to the results of scholarly research, and the right to use and re-use those results as needed as long as the creators are acknowledged. OA is a concept, a movement and an economic model that refers to work that

is freely available to users via the internet without financial cost and without economic, legal or technical barriers other than those intrinsic to the internet (Drott, 2006). According to the Budapest Open Access Initiative (BOAI, Open Society Institute, 2001), removing access barriers to this literature will accelerate research, enrich education, share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge.

OA has the power to transform the way research and scientific inquiry is conducted. It has direct and widespread implications for academia, medicine, science, industry and for society as a whole. OA has the potential to maximize research investments, increase the exposure and use of published research, facilitate the ability to conduct research across available literature and enhance the overall advancement of scholarship. Increased access to research output may potentially increase the use of the published works, the visibility of the author and/or institution, and therefore the impact and citations, especially for higher quality, hence more citable articles are created which creates more research (Brody, Harnad & Carr, 2006; Gargouri et al., 2010; Swan, 2010; Hitchcock, 2011). OA increases the potential to collaborate and also the “social value of science”. Research is done by researchers, for the uptake by other researchers (Salager-Meyer, 2012). Publications in OA permit others to identify errors, to reject or refine theories and to reuse data more openly and effectively (Boulton, 2012).

Seeing how OA was on the agenda of most academic institutions in Europe and the world, the UM started working on an IR as a means to start building the infrastructure to support OA. An important factor that influenced this decision to start working on OA was the fact that the UM was double spending for research created by UM researchers. The fact that the UM was paying for the salaries of its academics while providing support such as resources, labs, legal services, etc... and/or fund research projects and then pay again for subscriptions through publishers to access the results of the funded research was creating a huge strain on the UM financial budget. Another force pushing the UM towards OA was the fact that the EU commission was pressuring for research funded through EU funds to be published in OA. This meant that as the only research university in Malta, there had to be support for academics especially to adhere to Horizon2020 policies. Once the infrastructure was ready (the IR) an OA policy would follow and the end result would create a mandate for any UM funded research to be in OA.

1.2.1 Open Access as a tool that enables Open Innovation and Open Education

Open Innovation is a strategic game for big companies and one of the most important moves to consider for their innovation leaders is the allocation of funds and resources in the context of open Innovation. Henry Chesbrough (2003) in his book *Open Innovation: the new imperative for creating and profiting from technology*, talks about companies that must increase the “metabolic rate” at which they access, digest, and utilize knowledge in order to stay competitive and strong in a dynamic market. OA aids this process by providing access to scientific research at no extra costs to businesses.

OA is a fundamental enabler of Open Innovation for the simple fact that research is carried out more effectively by reducing duplication and allowing for viewing by a larger audience faster. This audience can further replicate studies to provide more evidence or disproving research more easily. The whole community benefits from OA as research is widely more accessible and researchers have a higher chance of being accredited for their work. Instead of their work being exclusive, OA allows for their work to be visible globally. In a study published in 2008

by Harnard (The University's Mandate to Mandate Open Access) it was shown that OA can increase citations from 25% to over 250%. Intellectual Property rights are respected and the author/creators still holds the copyrights of their work. Since plagiarism checker technologies such as Turn-it-in can search through OA material, having material in OA increases the chances of detecting plagiarism.

OA in a university setting allows for a more effective use of research funds and this brings with it an increase in the visibility of the institution. Since more interdisciplinary areas are being researched, this will allow the University to diversify its human resources and reduce the chances of faculties researching the same topic thus bringing effective management of research funds. Similarly to other foreign Universities, the UM was funding research which was published in various journals which it had to pay to have access to. This creates double spending as the UM has to pay twice for the funded research.

At its core, OA creates a loop of information that can only grow by time. A researcher who publishes his findings in OA will be contributing to the scientific community in general. This scholar will also provide other peers with areas and topics for further investigation either directly or indirectly. Thus coining the term research creates more research. This will benefit, the individual, the institution, the academic community and the world.

OA in academia eventually results in Open Education (OE). People want to learn. This is reflected in the description of OE found on openeducationweek.org which describes how OA to knowledge makes it easier for everyone to gain knowledge and improve their environment, both in academic but also in social contexts. The website goes on to explain how:

“By providing free and open access to education and knowledge, we help create a world where students can get additional information, viewpoints and materials to help them succeed. Workers can learn things that will help them on the job. Faculty can draw on resources from all around the world. Researchers can share data and develop new networks. Teachers can find new ways to help students learn. People can connect with others they wouldn't otherwise meet to share ideas and information. Materials can be translated, mixed together, broken apart and openly shared again, increasing access and inviting fresh approaches. Anyone can access educational materials, scholarly articles, and supportive learning communities anytime they want to. Education is available, accessible, modifiable and free.” (openeducationweek, 2015)

1.3 The implementation of OAR@UOM

Setting up an IR is not simply downloading the software and waiting for scholars and researchers to submit their work. It requires manpower to assist in technical issues, policy making, training of library staff and academics as well as marketing. This project kicked off in 2012 when a steering committee for the implementation of an IR was set up. This IR Team conducted a study on the various IR platforms available on the market, as well as considered various other aspects such as costs, hardware, policies, staffing and marketing.

When studying the IR platforms, the IR Team limited itself to open source products and concluded that DSpace, supported by MIT and Hewlett Packard should cater for the UM needs. DSpace provides an incredible level of flexibility, allowing for the use of qualified Dublin Core metadata and controlled vocabulary. It also allows an organisation hierarchy according to communities which correspond to faculties, institutes and other UM entities. Files are kept accessible through the use of URIs persistent network identifiers that eliminate online citation

decay as technology formats, media and paradigms evolve over time. This allows for data files (bitstreams) to be organised together into related sets. DSpace is OpenAIRE compliant and provides internet-based tools for the submission, processing and uploading of material onto OAR@UoM. Since the software supports authentication via Shibboleth, the UM IT Services found it easier to work with and did not need to invest in other softwares. The software allows scholars and researchers to search the IR through various parameters including title, author, date, type, community (faculty or department) or collection. The system also provides RSS feeds to alert users when new content relevant to their particular area of research is uploaded onto OAR@UoM.

The next step after establishing the IR platform was to draft the IR policies as quality assurance guidelines for all materials submitted onto OAR@UoM. The IR Team compiled and forwarded the policies to the UM Legal Office for approval. The policies included:

- content policy
- use policy
- submission policy
- metadata policy
- preservation policy
- withdrawal policy

Moreover, two IR Administrators who would be responsible for launching and maintaining the IR were selected. The roles of the IR administrators varied from user training, liaising with faculties and departments, managing the IR software and metadata, uploading of content on behalf of the researcher (mediated deposit) and creating usage reports.

In order to ensure that the project moves along smoothly and that tasks are delegated appropriately, the UM Library Manager (Resources), who was involved in this project from the start, was assigned the role of Repository Manager.

The hardware and peripheral software required so as to effectively run the IR were also considered. Following communications with the UM IT Services, it transpired that the UM has a state-of-the-art IT infrastructure with good quality network as well as high processing speed of staff and end users' workstations. Moreover, this would not incur additional financial expenses for the Library.

Before proceeding forward, the IR Team delivered a powerpoint presentation to the UM Distance and eLearning Committee (DEC) for approval. An agreement was reached and DSpace out-of-the-box software was installed. Subsequently, the IR interface and design were customised according to the UM needs and profile.

To make staff aware and knowledgeable about the IR, the IR Team carried out an overview and discussion about the IR with all Library employees. Furthermore, to involve staff, a competition to select an appropriate brand name for the IR was conducted amongst all Library workers. OAR@UoM was the winning entry. The winner of the selected brand name was presented with a gift voucher.

Before implementing OAR@UoM, a pilot study was conducted and results showed that academics are interested in the OA concept. The core issue revealed from the questionnaire was that many academics are not fully aware of their copyright obligations and restrictions. Moreover, from the questionnaire, the IR Team identified appropriate candidates to carry out

a pilot project so as to test the logistics of the submission process and gather information before implementing OAR@UoM. Selected candidates were required to submit one sample of different types of material (Egs book chapter, article, conference paper, artwork, sound/video recordings, etc), and provide feedback on the submission process. Testing on metadata, searching capabilities, navigation and acceptability of various file formats were also carried out. Contribution in the pilot testing was satisfactory and enabled the UM Library to identify and eliminate hitches on the production server prior the official launching of OAR@UoM.

In practice most of the academics, who took interest at first, were concerned mostly about three aspects: copyright issues, not having the time to upload, and even not wanting their research to be too widely available. For some reason the idea of OA seemed to be a cultural shock for the academic community in Malta. Another common reason for not uploading on OAR@UoM was the fact that a big number of academics had already made their research available in OA through other platforms such as researchgate.net and academia.edu. These academics argued that uploading everything on OAR@UoM would be repeating again what they had already done on these social networks. There was a handful of academics that supported the repository and uploaded their papers, book chapters and other items on OAR@UoM, however, they only represented a minor segment of the University of Malta academics.

1.3.1 Submission Procedure

OAR@UoM offers two methods for researchers to submit their research; mediated or self-deposit. Mediated deposit is used to support academics who might not have the time to upload the material themselves and/or needed some assistance. Academics who want to submit their items individually can use the self-deposit method. The submission methods for academics and students differ; in order to have dissertations available on the repository, students submit an electronic version of their theses, which the faculty administration collects and then sends to the Library as a batch. Library staff uploads the dissertations under their respective faculty's collection and ensures that the metadata is consistent with Library policies.

When academics upload their research on OAR@UoM, the submission goes through a quality control phase. All submissions are checked by the Library staff to ensure that the metadata is correct and the items submitted are the ones described. Most frequent issues at this stage are subject keywords. Replacing author generated keywords with Library of Congress subject headings is usually the most frequent issue as this is usually a time consuming task, especially if the subject of the research is not clear or obscure.

1.4 Items on OAR@UoM

After nearly two years, the Library managed to populate the repository with a number of important research resources. There are over 12,000 different authors, including authors from other institutions, who have items deposited on OAR@UoM with around 16,880 different subject classifications. These items are also the result of the Library's own initiative to find content appropriate for OAR@UoM and upload it on behalf of the creators. On a first impression 12,000 authors might sound impressive but at least half of them are students and their dissertations. Subsequently, from the remaining half, about 10% are voluntary submissions from academics (self deposited or mediated), the rest are a result of the Library's initiative to collect Maltese published research. As of the end of June 2017, there are a total of 17,308 items available on OAR@UoM, over 5,110 articles, 2,428 recordings, 316 books, over

3,988 undergraduate dissertations and nearly 2,261 postgraduate dissertations. This is just a fraction of the total research output produced by University staff.

University published journals such as the International Journal of Emotional Education (IJEE), Journal of Malta College of Family Doctors (JMCFD), Images in Paediatric Cardiology (IPC), Xjenza, Bulletin of the Entomological Society of Malta, Antae Journal, Malta Journal of Health Sciences, Malta Medical Journal, Think Magazine and Symposia Melitensia upload their issues on the IR as a means to reach a bigger audience. Since OAR@UoM is OpenAIRE compliant, all uploads are OCR compatible meaning that full texts of pdfs are searched for relevant keywords in any searches performed on the system. The IR is indexed by Google which means that anything uploaded on OAR@UoM is getting a boost in visibility online.

Another way to increase the visibility of the repository in general and to demonstrate the interest to the materials uploaded on the IR, was to encourage other entities to upload material in special collections. An example of such is the University Campus FM, which see OAR@UoM as a means to archive their programs and also benefit from the visibility boost. Electronic dissertations uploaded on OAR@UoM are not available in OA, however, the metadata of these dissertations, is. In fact, the Library receives a number of requests from various researches from different countries, to gain access to these dissertations. After receiving a request, the author of the dissertation is contacted and if he/she gives permission, such requests are granted. The UM Library is also working to include students emails to all dissertations in order to streamline the workflow of this service.

Another project linked with OAR@UoM is the digitization of Melitensia pamphlets (material related or talking about Malta, by Maltese authors or of Maltese heritage importance). Since OAR is the only Repository on the island, an External Research Collection section has been created to collect digital cultural heritage not published by the UM. This collection is serving as National repository.

2.0 OA Marketing

Since OAR@UoM is the first and only online institutional repository for the University of Malta and the only academic repository for the whole country, it serves as an opportunity to expand partnerships with other institutions. This pushes the boundaries of traditional IRs and creates a new sets of challenges for librarians.

One such challenge, is promoting the idea of uploading research in OA to a number of academics who are unaware of OA or their copyright obligations and restrictions. For this reason, awareness is crucial and thus the Library is actively promoting OAR@UoM to academics as a platform where research created by the University is preserved and also showcased online in OA. This highlights the value of having research created at the University available on the repository both for preservation purposes and also to make research available on an international level without any restriction.

Library staff organizes training workshops on how to upload the research output onto OAR@UoM and show academics the benefits of OA publishing. Librarians also offer direct one-to-one training sessions with academics addressing copyright and plagiarism issues as these might be one of the many issues holding back academics from submitting their research. The Library takes part in several events, both at National level and also at European level to constantly raise awareness about the repository and also learn new trends in OA. Every October

the Library organizes OA week on campus where more in depth training is given and awareness about research in OA is raised. In May 2015, the Library in collaboration with FOSTER (Facilitate Open Science Training for European Research) hosted a conference, specifically aimed at academics who publish on a regular basis. The goal of the conference was to address main concerns and issues academics have with uploading their research on the repository in OA.

Furthermore, the library was quick to identify champions to serve as ambassadors of OA. These individuals are researchers with the most articles available in OA on OAR@UoM and by recognizing their support, the library worked with them to help promote the practice of uploading research on OAR@UoM via various events both on campus and off campus. This also helped to market the idea of OA in an informal way by word of mouth and is the building block to start changing the culture and mentality of researchers in Malta. The OA champions were crucial in the yearly OA week activities, which the Outreach department organizes every year in October. Talks and workshops highlighting the many benefits of OA together with practical examples provided by the champions of OA help reach a wider audience and put the spotlight on OA.

2.1 Linking with Open Archives Initiative (OAI) service providers

To further promote Maltese academic output, OAR@UoM was linked with various Open Archives Initiative (OAI) service providers. The OAI was established in 1999 with a singular goal of developing and promoting technical interoperability standards which would aim effective dissemination and sharing of metadata. OAI introduced a simple technological framework based on metadata harvesting that would consist of two types of participants: data providers and service providers. Maximising exposure of Maltese academic research uploaded on OAR@UoM increasing the chances of establishing new collaborations with international entities and presenting new funding opportunities.

The OpenAIRE portal was the first OAI service provider in which OAR@UoM was included. The portal represents the technological backbone of the OpenAIRE2020, a large-scale EU initiative, which aims to promote open scholarship and improve the discoverability and reusability of research data. The OpenAIRE platform is vital for inter-connecting and managing research outputs stored in various archives, repositories and data storages across Europe.

Another OAI service provider that OAR@UoM is linked to is BASE: Bielefeld Academic Search Engine. Launched in September 2004 by the Bielefeld University Library in Bielefeld, Germany, it can be considered one of the most successful and utilized OAI Service providers in the world. As of the end of last year the metadata database of BASE held over 103 million records, which have been collected from nearly 5.000 data providers.

OAR@UoM has also been registered with CORE: Connecting REpositories. CORE was created in 2011 by a team of experts at the Knowledge Media Institute at the Open University in United Kingdom. An advantage that CORE has over the other aforementioned OAI service providers is that, CORE harvests not only the metadata records of articles, research papers and other types of scholarly material but also their full-texts, which greatly amplifies its value for the scientific community. Upon entering the system the aggregated content is enriched by text and data mining.

The links with other OAI service providers highlights the value of having research created at the UM available on the repository both for preservation purposes and also to make research available on an international level without any restriction. By participating in pan-European projects, such as OpenAIRE2020 and PASTEUR4OA, the UM Library is also playing an active role in promoting OA. The UoM Library also acts as the National Point of Reference for OA within the EU.

However, even with all the listed benefits of exposure and similarly to other institutional experiences, some academics are still reluctant to submit their research on OAR@UOM. Furthermore, to the introduction of IRs in other institutions, the initial years are the time when the library has to be the most active in the promotion and encouraging academics to upload their research in OA. At this stage institutions could consider adopting an OA policy to mandate research to be published in OA journals but institutions expecting to adopt such an approach can be criticized for not taking into consideration the financial requirement for doing so, especially catering for APCs.

3.0 The need of an OA Policy

Unfortunately, similarly to other institutional experiences, some academics are reluctant to submit their research on OAR@UOM (however, some of them are happy to submit their publications to social media platforms like academia.edu or researchgate.net). The initial years are the time when the Library has to overcome various reasons which hinder the submission of material to OAR@UoM by academics. At this stage institutions could consider adopting an exclusive Gold OA policy to mandate research to be published in OA journals but institutions expecting to adopt such an approach can be criticized for not taking into consideration the financial requirement for doing so, especially catering for APCs. This is similar to what happened in the UK when the government tried to implement a national OA policy favoring the Gold model at the expense of the Green model (Mizera, 2013). With the implementation of an OA repository instead of an OA Policy first, the University of Malta promoted the self-archiving route (Green OA) while also recommending and supporting Gold OA Publishing. Unfortunately, disseminating information and speaking at local conferences, was not enough to persuade academics to upload material on OAR@UoM. Since at the UM we do not have a structure to guarantee funding of APCs, the Library started working on an OA policy to mandate submissions onto OAR@UoM (Green OA) while supporting OA publishing (Gold OA). This is also very similar to the model adopted by the UK according to the Research Excellence Framework (REF) policy.

The REF is the new system for assessing the quality of research in UK higher education institutions (The University of Sheffield, 2017). The REF was undertaken by the four UK higher education funding bodies, who will use the REF results to distribute research funding to universities on the basis of quality, from 2015-16 onward. This mandates university research to be submitted into university repositories in OA making it easier for universities to be compliant with OA policies. This also changes the nature of submissions from a want to a need in the context of researchers. It creates a competitive environment where a researcher who wants to benefit from research funds must have had his previous research available through OA repositories. Failure in doing so has negative repercussions for him/her and his university. Having research funding and professional review directly connected with depositing articles in the repository in OA has drastically increased submissions and changed the attitudes of academics towards OA.

UM Library's goal is to bring together the Maltese research community by enhancing their awareness on OA; however due to the reluctance of academics to upload, in order to guarantee that researchers will submit material onto OAR@UoM in OA, the UM has to issue a mandate that clearly outlines the responsibly involved with such an obligation. This may further impact the country as a whole due to the fact that research produced will be internationally visible and can result in foreign entities investing in local research.

3.1. Developing an OA Policy for the UoM

According to Horizon 2020 policies, research funded by public funds/EU funds must be published in OA after peer-review. This does not specify or suggest whether it should be gold or green OA. It also does not force researchers to submit within their institution's repository. In accordance with the Horizon 2020 Policies, the research must be in OA and the following must be included:

- The terms ["European Union (EU)" and "Horizon 2020"] ["Euratom" and Euratom research and training programme 2014-2018"];
- The name of the action, acronym and grant number;
- The publication date, and length of embargo period (in the case of green OA), and
- A persistent identifier.

The policy should mandate researchers/UM Academics to submit research created by UoM/EU or Public funds on OAR@UoM. This will provide OA to research created by UM. Waiver option should be restrictive as much as possible. Instead of waiver options embargo periods should be favored. This will restrict academics to opt out of the Policy. Embargo periods should not be more than 12 months (ideally not more than 6 months where the research is of scientific nature). The Policy should clearly state that once the research is published it should automatically be submitted on the IR. The OA policy should also supersede publisher policies. Researchers/academics should be aware that the OA policy of the institution will legally bind them with submissions on the IR.

IRs are major players in the OA movement. Subsequently, through OAR@UoM, the Library's goal is to bring together the Maltese research community at large by enhancing their awareness on OA. However, in order to guarantee that researchers submit material onto the IR in OA, the UM has to issue a mandate that clearly outlines the responsibly involved with such a task. Hence the development of the OA policy at the institutional level. For this reason, a committee was formed by a number of librarians from the UM Library to develop an OA Policy that requires research being created at the UM to be publicly available on OAR@UoM. Five major stages were identified for this to happen. Stage 1 required all the librarians involved to familiarize themselves with the OA movement and look at examples of other OA Policies from other Universities or research institutions. The next step, Stage 2 was to identify the main themes and compiling a first draft. Using the Horizon 2020 framework as guidelines and looking at other OA Repositories directories like ROARMAP and OpenDOAR several themes for an OA Policy were identified.

It was decided that the OA Policy should reflect such themes by dividing the policy in different sections. The first section deals with clear definitions of OA, peer-review material and non-peer-reviewed material. This needs to be clear as to provide guidance on what will be and will not be accepted as submissions. The next section deals with an outline of responsibilities that each stakeholder has. For example the Institution (University of Malta) should provide OA

platform for researchers and also provide support regarding Copyrights. The authors/researchers must ensure compliance with the OA Policy while also making sure that they own the copyrights of their submitted material. They can further request embargos instead of waiver options/opting out except specific cases which need to be tackled on a case by case basis. The Library will be dealing primarily with Green OA, where no charges are imposed on submitters to make research submitted OA compliant. The Library shall manage the IR, provide training to submitters about OAR@UoM, review the metadata of submissions and also be responsible of marketing and promotional campaigns about OAR@UoM.

The third section is all about copyright issues and in this section it must be clear that each submitter will retain the copyright on their submissions. Furthermore, the OA policy will recommend that every research funded or supported by the University, either in full or in part, must deposit the final research paper/report in OAR@UoM. This will take priority over publisher's agreements unless the research was published in OA journals that allow for IR submissions.

The final section of the policy will tackle the waiver options and embargo periods. The policy will force researchers/UM Academics to submit research on OAR@UoM and provide OA to their research created/funded by the UM or the EU. Waiver option should be restrictive as much as possible. Instead of waiver options, embargo periods will be favored. This will restrict academics to opt out of the Policy.

During Stage 3 the draft was refined and reviewed by the UM Legal Executive. Once approved the draft Policy was forwarded to the University of Minho in Portugal for their review and comparison with their own policies. Once reviewed and approved Stage 4 and 5 required the creation of Powerpoint presentation to be delivered to the Library Committee. Once approved by the Library Committee the Policy was forwarded to the Registrar's office to be approved by the UoM Senate.

4.0 Creating an Open Science (OS) department as a means of marketing

While working on the OA Policy, the library managers agreed upon the creation of a library department that would be responsible for providing assistance to academics regarding OA matters. OA has influenced the mechanism of publishing research. Quite often researchers (academic, support staff and students) are unaware of the number of publications available via OA, of how to access them, or how to publish in OA, or how to use an IR. Subsequently it was of utmost importance to increase awareness of OA with the UM researchers and educate stakeholders of the benefits of publishing in OA both for themselves and for the Institution, the various approaches towards OA, including both Green and Gold OA models and the reasons why UM has an OA Policy. Since the Outreach department has it's hands full with other library training and promotion of all Library services all year around, creating a new department with a new team, provided the focus needed to do all the above without disrupting the current library workflows. Also the OS Team will be better equipped to research additional features for upgrading the IR, while seeking advice from foreign institutions regarding OA.

As part of the duties of the OS department and once the OA Policy is implemented, meetings have to organized with Deans and Directors of University Faculties/Institutes/Centers and their respective Heads of Departments (HoD). These meetings should serve as a direct approach to the main stakeholders, subsequently it is highly suggested that during said meetings the OS Team (for any queries regarding OA) and Outreach Team (for any training regarding uploads

on OAR@UoM) should coordinate and a representative from each team should be present. Furthermore, either the Director or Deputy Director should be present. This will guarantee that both teams will be able to assist and provide more clarifications to the stakeholders present for the meetings.

During the first year after implementation, STEM (Science, Technology, Engineering and Mathematics) Faculties will be targeted; due to high turnover of their research. Nonetheless, if during the first year, other academics/researchers are interested, the Open Science Team should cater for them accordingly. Topics to be discussed should include the benefits of publishing in OA both as individuals and for the Institution's; benefit, which could lead to the possibility of financing research through private sectors and the collaboration with foreign institutions. Similarly academics should be made aware of the appraisal of their research being carried out by the Faculties/Institutes/Centers and possibility of asking for further UM research grants. The OS should provide assistance regarding the various approaches towards OA, including both Green and Gold OA models, including copyright issues with publishers and deposits (encouraging self-deposit rather than mediated deposits) on OAR@UoM.

Furthermore with the implementation of the OA Policy, the OS Team will organize, group and individual meetings with UM researchers on a regular basis (once every fortnight) for the first 6 months (later according to demand). During these meetings, the benefits of having an OA Policy should be explained. Subsequently the OS Team should give the necessary support to researchers to publish their works in OA. They should be familiar with what needs to be done to get copyright clearance (this being one of the major issues that researchers are sceptic about). It is important that they have access to publisher agreements to help them provide the adequate copyright advice. Help should be sought from the UM Legal Office and the Knowledge Transfer Office.

Many of the UM researchers upload their research on Academia.edu and ResearchGate. It is important that researchers are made aware that in reality OAR@UoM is not that different from Academia.edu and ResearchGate, and also that their work will still be indexed by Google and Google Scholar. Key stakeholders need to be encouraged to take positive concrete steps to make their research openly available thus encouraging fellow researchers to follow suit.

Communication between all stakeholders is essential to identify win-win-situations and mutual benefits in promoting and implementing OA. Webinars, similar to the ones which are being organized and marketed during OA week and which are available throughout the year will be organized and marketed with UM researchers all year round via email and social media.

Author/Publishing training workshops, organized in collaboration with publishing houses would also help clear problems with regards to copyright issues. During these workshops the OS Team will ask researchers who are already publishing in OA to share their experiences with other academics. A UM OS blog will be created through which the OS Team can give advice to researchers and where researchers can share their experiences with regards to OA.

The OS Team will be encouraging and supporting author self-deposit on OAR@UoM, but will also support mediated deposits under the proviso that there is a waiting list. Mediated deposited research will be uploaded on a first-come-first-served basis. This must be made clearly especially when there is a substantial amount of mediated deposits for example when there are calls for academic progression and promotion at the UM. In order to implement the policy, the promotions and reviewing body will be responsible for the enforcing of the OA policy. This

will ensure, together with other initiatives which are still being discussed, that academics are compliant with the OA policy. As a means to help and support the performance and reviewing body at the UM, the OS Team will be providing indexing services to monitor and implement the OA policy. So when an academic publishes his or her research with a publisher like Web of Science, JSTOR, Ebsco, etc... members of the OA team will check if the research has also been uploaded on OAR@UoM and if not contact the academic to help them upload the research on the repository.

Some of the UM Departments publish departmental journals. The OS Team will be contacting the respective editors of these journals and encourage them to deposit electronic copies of these publications. Furthermore, some of the UM researchers are editors of journals not published by the UM and during the meetings with researchers, they should be made aware and encouraged by the OS Team of the possibility of uploading these journals on OAR@UoM. Researchers must be made aware that this will increase visibility of their publications, enhance their academic profile and also enhance the Library's Melitensia digital collections. When contacting these editors, the OS Team should check with editors if electronic copies of past issues are available to be uploaded. The OS Team should push editors and website managers to upload their respective journal articles on OAR@UoM and create links from their websites directly to the respective research on OAR@UoM instead of having the same journal/article (in full text) uploaded on their websites.

The OS Team will also be populating the repository with retrospective research from UM academics. Having previously restricted research uploaded on the IR will provide an accumulated pool of knowledge which will be visible and accessible to more researchers giving more benefits to academics and an extra incentive to upload their current research in OA.

4.1 Other duties of the Open Science department

The OS Team will be using Google, Google Scholar, Web of Science, Scopus, Academia.edu, ResearchGate and other abstracting and indexing databases, to search for research being published by UM researchers and contact the researchers to provide the necessary copyright clearance so that this research can be included on OAR@UoM. Departmental websites will also be monitored by the OS Team and checked for list of research being published under their auspicious, and request and acquire publications accordingly. Similarly, the OS Team will try to contact authors of past PhD theses which are already available in restricted access on OAR@UoM, and get copyright clearance from the authors to place in OA.

As a result, the OS Team will be directly responsible for monitoring what is being uploaded on OAR@UoM in restricted access (collected either through digitization projects or through browsing abstracting and indexing services), and contacting the respective authors/editors to provide permission to place their research in OA.

5.0 Conclusion

Since 2014, the UML has come a long way when it comes to OA but there is a lot more work that needs to be done. The main priority is to implement the OA policy and continue to change the mentality regarding OA locally. With the creation of the OS department academics will be encouraged to upload their published work on the IR and the OS Team will also be responsible for checking the UM researcher's publication to make sure they are compliant with the OA policy. With over 1,200 academics/researchers one of the obvious obstacles to OA was the

culture change within the academic community. There was little or no understanding of OA before 2014, so when the UML decided to work on an IR and on OA, awareness and communication became a priority. Another hindrance to OA was the misinformation circulating between researchers. Misconception regarding peer-reviewing in OA, copyrights and plagiarism are the main concerns for academics learning about OA publishing. As a result a lot of work from the UML was done in the form of information sessions/training sessions. The UML also had to create the IT infrastructure to support OA. By looking at various software available for free, the UML was able to choose the most appropriate and efficient system for the UM. This, however, required training and more research on best practices and OA data management. Subsequently, as there was no local expertise to guide the UM through OA related queries, as a result the UML staff had to go through a learning curve by conducting research to become well informed and kept up-to-date with OA related news.

With the limited resources available, the UML could not target all the academics at one go. Having champions of OA as a point of departure helped the UML to spread a consistent message regarding OA and made the UML more approachable to support academics. A lot of academics found it to be a burden having to upload their retrospective research on the IR, especially when there is no electronic copy of the research available. As a result, the library staff had to provide the service of both mediated deposit and digitization. Some academics were only interested in publishing with particular journals which either had very high APCs or did not support OA. Since the UM has no funds related to APCs, this hindered the adoption of OA for these academics. Even though academics are offered an alternative to Gold OA by asking for permission from publishers to upload their research in the UM IR (Green OA). Many publishers who do not give standing permission will agree to case-by-case requests. Academics are recommended to use SHERPA request template when asking for such permissions. Another alternative is by using an author addendum - a proposed modification to the publishing agreement, written by a lawyer, giving the author the right to authorize OA (and sometimes other rights as well). Since it's only a proposed modification, publishers may accept it or reject it.

The OS department together with the Outreach department are trying to change the attitude and mentality of academics at the UM vis-a-vis OA. In order to clear any misconceptions surrounding OA both teams constantly showcase the benefits of OA by organizing training workshops and meetings with researchers. Once the OA policy is implemented UM funded research will become more accessible and visible internationally. The OA policy is the tool the UM needs to help academics publish and upload their research in OA and the IR. Similarly to the University of Cyprus which is also the national office for support for OA in Cyprus, the UM is also the national reference point for OA in Malta.

Unlike the situation in Cyprus, where in February 2016 a National OA policy was approved (Koukounidou, 2016), in Malta, the UM OA policy will be the first step toward a National OA policy. Since the implementation of Cyprus' National OA policy, a number of universities in Cyprus have adopted their own OA repositories, at least four use DSpace. They also provide assistance and support for academics/researchers to upload their research on Zenodo, which is an online repository developed by CERN and OpenAIRE, and available for free. As a result, the work in Malta is not paving the way for OA, however, compared to other institutions starting to work on OA, the UML is making good progress. Providing the infrastructure to have a IR, with flexible options of uploading items and providing support in the form of a whole department dedicated to OA and OS, places the UM in the middle of the spectrum of OA institutions.

As an emerging OA repository OAR@UoM is providing the best platform for Maltese research to be visible online. The next step to continue supporting OA in Malta is having an institutional OA policy which helps in multiple ways: it provides a clear message to researchers about how their university expects them to engage with OA, and for support staff it helps when structuring advocacy sessions and answering enquiries (DeGross, 2016). The fact that we have one university gives us the advantage of delivering a unifying and clear message without conflicting with other research related policies, even on a national level. In the UK, from 2012 onwards, there was a lot of confusion regarding OA since funding bodies, commercial publishers, scholarly societies and universities; did not attempted to co-ordinate policies terms. Many academic staff had been left confused, frustrated and stressed by new obligations placed upon long established publishing practices and by the way in which these changes have been communicated (Awre, 2016). The creation of the OS department shows commitment from the UM Library that it prioritises communication with researchers and is willing to guide academics when it comes to OA related issues.

Considering the various aspects of OA, technological provision, policy provision, and maturity of attitudes of researchers, various countries follow different routes. In small countries there is also the aspect of IRs playing larger roles, providing OA to generic academic output, not only at institutional level.. With a successful technological deployment what remains vital at this point is to find the best local policy tools to improve the local participation of Maltese academics/researchers.

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