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'OPEN ACCESS, PUBLISHING, AND GREY LITERATURE'

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The Grey Journal

An International Journal on Grey Literature

COLOPHON

About TGJ

The Grey Journal is a flagship journal for the international grey literature community. It crosses continents, disciplines, and sectors both public and private.
The Grey Journal not only deals with the topic of grey literature but is itself a document type classified as grey literature. It is akin to other grey serial publications, such as conference proceedings, reports, working papers, etc.

The Grey Journal is geared to Colleges and Schools of Library and Information Studies, as well as, information professionals, who produce, publish, process, manage, disseminate, and use grey literature e.g. researchers, editors, librarians, documentalists, archivists, journalists, intermediaries, etc.

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About GreyNet

The Grey Literature Network Services was established in order to facilitate dialog, research, and communication between persons and organizations in the field of grey literature. GreyNet further seeks to identify and distribute information on and about grey literature in networked environments. Its main activities include the International Conference Series on Grey Literature, the creation and maintenance of web-based resources, a moderated Listserv, and The Grey Journal. GreyNet is also engaged in the development of distance learning courses for graduate and post-graduate students, as well as workshops and seminars for practitioners.

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EDITOR'S NOTE

Forty Years, Two Name Changes, One Goal to Promote Grey Literature 1980-2020

System for Information on Grey Literature in Europe, SIGLE – OpenSIGLE – OpenGrey

In 1980, the "System for Information on Grey Literature in Europe" (SIGLE) was established. It followed upon a seminar on grey literature that had been organised by the European Commission. SIGLE was operated by a network of national information and/or document supply centers active in collecting and promoting grey literature. It developed into a pan-European electronic bibliographic database and document delivery system.

In 2006, the SIGLE database migrated to OpenSIGLE – an online open access bibliographic database with Inist-CNRS as its Service Provider. The year following, GreyNet International became a Content Provider of its conference abstracts, preprints, slides, and author biographical notes. In so doing, OpenSIGLE became registered as a repository in OpenDOAR.

In 2010, the name OpenSIGLE was changed to OpenGrey, which provided improved research facilities and the export of records. Earlier this year, notification was given that as of November 30th 2020 the OpenGrey Repository will be discontinued and preserved as a closed archive.

In advance of this closure, all of GreyNet's content in the OpenGrey Repository will have been transferred to the GreyGuide Repository and Portal with ISTI-CNR as its System Provider. In order to facilitate new content from other providers, a multidisciplinary, multiple document type collection has been added to the GreyGuide Repository, which is likewise registered in OpenDOAR. This new collection is aptly named Resources in Grey Literature (RGL) and welcomes content from around the world.

Dominic Farace,
Journal Editor

Korea Institute of Science and Technology Information (KISTI)

English version - http://en.kisti.re.kr/

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World-class information research institute creating values for customers

*** Main functions**

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Going Green – Publishing Academic Grey Literature in Laboratory Collections on HAL *

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Abstract
HAL is the national open repository for documents and data from French scientists. The deposits are organized in institutional portals and collections from research laboratories and projects. The paper analyses how grey literature is represented in the collections of French research laboratories on HAL. We assess the grey literature deposits on HAL from the 66 research laboratories affiliated to the University of Lille, covering all STM and SSH fields. The focus is on conference papers, reports, working papers, theses and dissertations. The study distinguishes between deposits of documents and records without documents, compares deposits from different disciplines, different laboratory collections and different document types. Typical strategies (or lack of strategies) on the local level of research laboratories are identified. Conditions and variables that may explain these differences are discussed, together with potential effects on the visibility, impact and evaluation of the laboratories' research output.

Keywords*: Open science, open access, open repositories, research laboratories, grey literature, reports, conference papers, working papers, theses and dissertations*

Introduction

Last year, in 2018, the French Minister of Higher Education, Research and Innovation announced a National Plan for Open Science[1]. The plan defines open science as the practice of making research publications and data freely available, open to all, without hindrance, without delay, without payment. The first commitment of the plan is to generalise open access to publications through open access platforms, whether in journals or books or through an open public repository such as HAL[2]. This commitment includes the confirmation of the main role of the HAL open repository in the French ecosystem of open science infrastructures. Launched in 2001 by the Centre for Direct Scientific Communication (CCSD) of the CNRS, the multidisciplinary HAL archive (= "Hyper Articles on Line") has become over the years one of the most important platforms of the "green road" to open access to scientific information.

Green road means the self-archiving of scientific publications by the authors themselves, on a dedicated open platform or repository (Harnad et al., 2004). The green road strategy is set up on two stakeholders: the authors, insofar as they hold the intellectual rights to deposit their own publications (article, chapter, communication, thesis, etc.), and their institution (research organisation, university, school, etc.), insofar as it has the possibility of encouraging or enforcing self-archiving and since it also has the resources and legitimacy for an institutional archive (Lynch, 2003). In France, the green road is facilitated by the 2016 Law for a Digital Republic and the creation of a secondary exploitation right for French researchers (Article 30, cf. CNRS-DIST 2016).

HAL is the "green heart" of the French open access infrastructure. Currently (September 2019), the repository contains more than 1.9 million items, mostly articles (55%) and conference papers (30%) but also book chapters (9%), dissertations (5%) and other text and data files in all disciplines. 32% of the items are document deposits, the other 68% are records, i.e. metadata without text or data files.

* First published in the GL21 Conference Proceedings, February 2020.

[1] National Plan http://www.enseignementsup-recherche.gouv.fr/cid132529/le-plan-national-pour-la-science-ouverte-les-resultats-de-la-recherche-scientifique-ouverts-a-tous-sans-entrave-sans-delai-sans-paiement.html

[2] Hyperarticle en ligne https://hal.archives-ouvertes.fr/

Like its American model, the arXiv e-prints service, the HAL repository was initially designed on the principle of direct communication among researchers, to facilitate and accelerate the exchange of scientific results even before they are published in a journal or book. With time, in particular after the signature at the Academy of Sciences on 2 April 2013 of the "Partnership Agreement in favour of open archives and the shared HAL platform" between French universities and research organizations, HAL has become a kind of national institutional repository, a "shared national infrastructure hosting institutional archives or towards which other institutional archives are firmly invited to release their content" (Bauin 2014).

Several hundreds of universities, research organisations, business and engineering schools and research laboratories have created their own portals or collections on the HAL platform as an institutional repository or as a digital showcase of their scientific output. Our focus is on the academic laboratory collections. In France, academic research is organized via university-based laboratories which are the researchers' working environment. The laboratories are the basic level of university research; research projects are organized around the laboratories, and researchers are evaluated by the High Council for the Evaluation of Research and Higher Education (HCERES) within the framework of their laboratories.

An open repository collection can contribute to the visibility and the impact of the laboratories' scientific production; it can produce some basic scientometrics (number and typology of scientific papers etc.) and altmetrics (views and downloads), and it can supply data for further assessment (internationality, network analysis etc.).

A preliminary study was conducted in 2018 on the HAL collection of the GERiiCO laboratory[3] in order to analyse some of these basic metrics and to assess not only the interest but also the required investment and potential shortfalls (Schöpfel et al. 2018). The following study takes this research a step further, with a sample of 66 laboratories covering the whole range of scientific disciplines, focussing on grey literature and open access strategies and comparing the 2019 situation with survey data from 2008 and 2009.

Methodology

The 66 research laboratories of the University of Lille were selected based on the university's public list[4]. For each laboratory, we determined the name, the acronym and/or number, the type of research unit (university structure or mixed governance with research organisations), the field of research (arts, social sciences and humanities; science and technology; medical sciences and public health; law, economics and management) and the discipline. This was done with information from the university's and the laboratories' websites.

25 labs (38%) receive funding (budget, equipment, staff) from the University of Lille only while 41 labs (62%) are located on the campus of the University of Lille but partly funded by other French research organisations, e.g. CNRS (multidisciplinary, fundamental research), INSERM (medical science) or INRIA (applied computer science).

These 66 labs cover the whole range of scientific disciplines. Best represented are medicine (20), biology (7), engineering (5), chemistry (4) and pharmacology, physics, informatics and economics (each 3).

In a second step, we determined for each laboratory if it had an institutional identifier in the HAL system[5] and if it had created a collection on the HAL repository[6].

[3] A research laboratory in information sciences, communication and cultural studies, affiliated to the University of Lille https://geriico-recherche.univ-lille3.fr/

[4] https://www.univ-lille.fr/recherche/laboratoires/ (accessed April 30, 2019)

[5] Accès unifié aux référentiels HAL https://aurehal.archives-ouvertes.fr/structure/index and index of research units https://hal.archives-ouvertes.fr/browse/structure (accessed June 10, 2019)

[6] Index of collections https://hal.archives-ouvertes.fr/browse/collection (accessed June 10, 2019)

Third, we assessed for each laboratory the number of deposited documents (documents with full text) and of records (metadata without documents) through a direct search in the HAL repository[7]. We also assessed the number of documents and records for specific types of documents, i.e. articles, communications (conference papers), book chapters, preprints, reports and PhD dissertations. This selection was based on previous research on open repositories and on a pragmatic definition of grey literature, considering preprints, reports, PhD dissertations and partially also conference papers such as grey (non-commercial, unconventional) literature and articles and book chapters generally such as white (commercial) literature. These figures were analysed with descriptive statistics (uni- and bivariate analyses). Chi-squared tests were performed on a p=.05 level.

Finally, we tried to get usage statistics from the people in charge of these laboratory collections, i.e. download figures for the last year (2018) as an indicator of impact for the whole collection and for the different types of documents.

Results

Collections and deposits

Except for a research unit at the Faculty of Medicine, all 66 research labs of the University of Lille are represented on the HAL repository. However, only 16 labs (24%) have their own collection, while 49 (74%) have but an institutional identifier which allows to link to related documents and metadata from their researchers. As figure 1 shows, the collections of research labs in arts, social sciences and humanities are significantly overrepresented, while there is no collection from labs in medical science and public health.

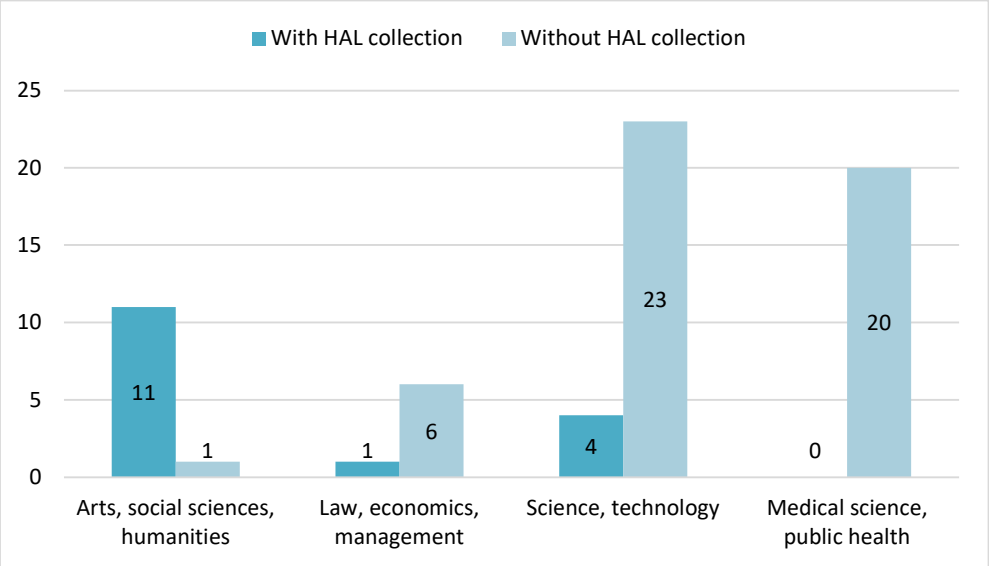

Figure 1. Number of laboratories with and without a collection on HAL (N=66 research labs)

This difference between scientific domains is even more significant on the level of deposits, i.e. the total of deposited documents and records without documents. The 66 labs of the University of Lille have 41,701 deposits on HAL; 26,158 deposits (63%) are produced by the 16 labs with a HAL collection (24%) while 15,543 deposits (37%) are produced by the other 50 labs without collections (76%). As figure 2 shows, the most significant differences are the distribution of deposits in art, social sciences and humanities (nearly no deposits outside of collections), in law, economics and management and in medical science and public health (both domains with few or no collections and a higher number of deposits outside of collections).

[7] In the following, "document" means deposited item with full text, "record" means deposited metadata without full text, "deposits" means both documents and records.

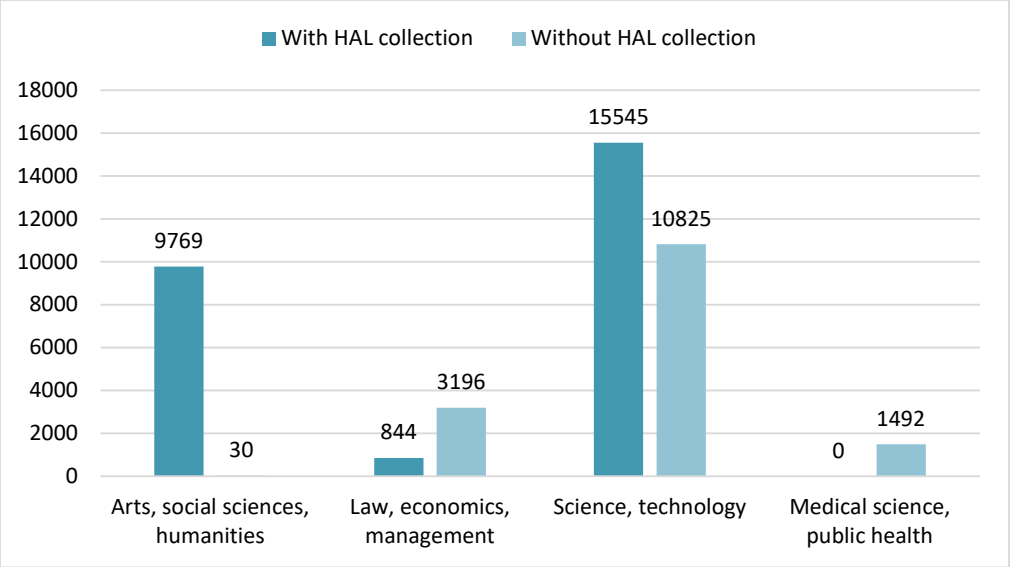

Figure 2. Number of deposits of laboratories with and without a collection on HAL (N=41,701 for all 66 labs)

The relationship between the creation of a collection on HAL and the number of deposits is significant. As figure 3 reveals, except for medical science which is without any collection on HAL, the median number of deposits per research lab is significantly higher for those with a collection than for those without (in brackets: only one lab). For all labs of the University of Lille, the median for those with a HAL collection is 764 deposits, i.e. 50% of the labs with a collection on HAL have deposited more than 764 documents and/or records. For those without a collection on HAL the median is 57 deposits, i.e. more than ten times lower. Figure 3 shows the situation for the four scientific domains.

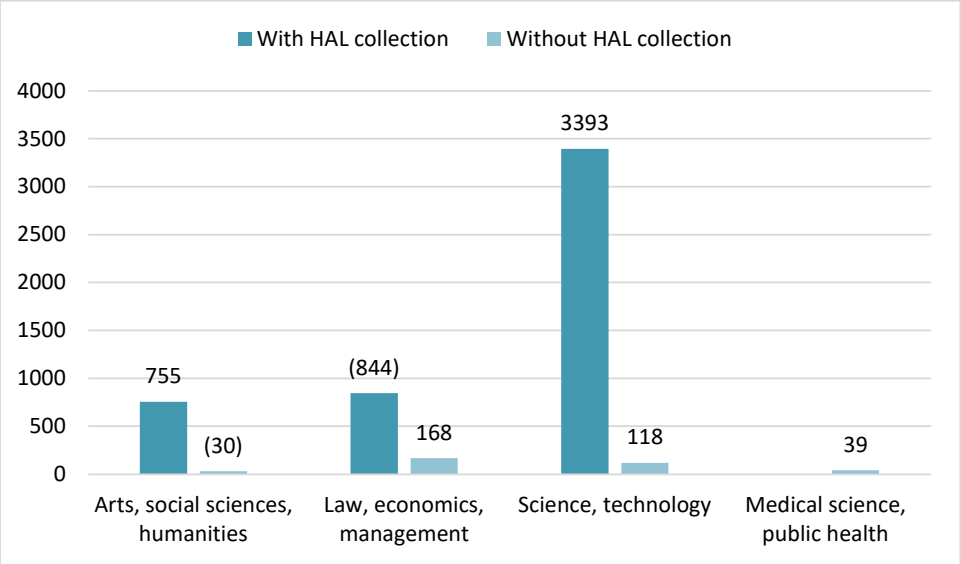

Figure 3. Median number of deposits per laboratory (N=66)

The high median number of deposits in the domain of science and technology is the result of the strong, institutional commitment to open access by two large research structures on the Lille campus, i.e. CRISTAL in the field of applied computer science and IEMN in the field of electronics, microelectronics and nanotechnology.

Documents and records

As mentioned above, the HAL repository contains two types of deposits, i.e. documents (with metadata) and records (metadata without documents). 32,247 deposits of the Lille laboratories are

records without documents (77%) while 9,454 deposits are documents (23%). This distribution is rather similar to the overall distribution of the HAL deposits, even if the part of deposits with the document is lower at Lille than the general average (figure 4).

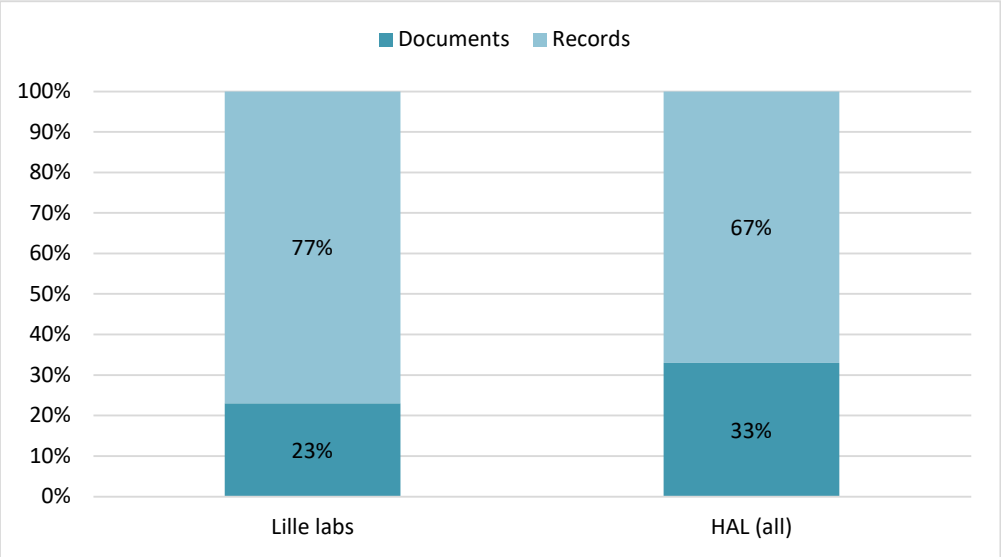

Figure 4. Documents and records of the Lille labs (N=41,701 deposits)

The numbers of deposits with and without full text are weakly correlated (r=.32).

The differences between the research domains are not significant (about 20% documents and 80% records), except for the small number of deposits from medical sciences and public health where half of the deposits are documents (figure 5).

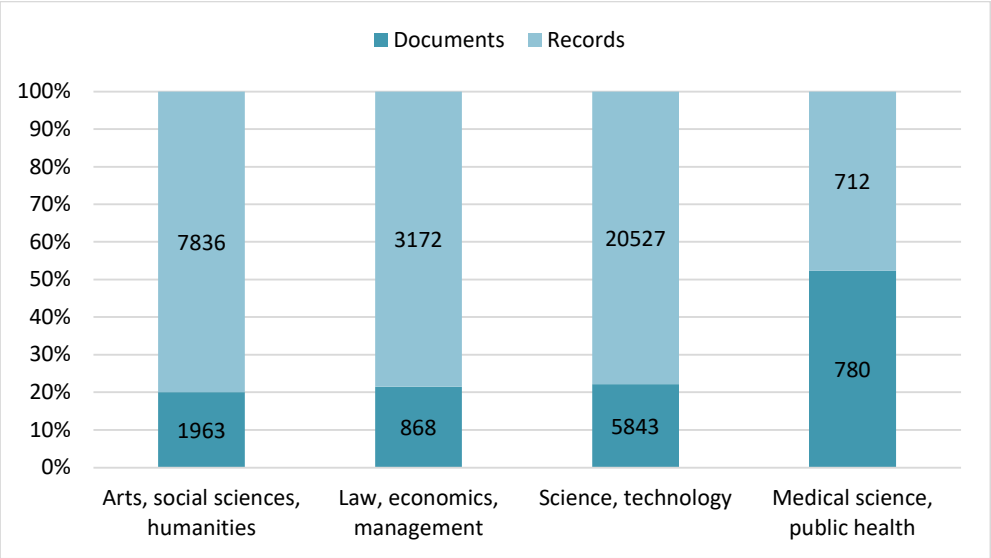

Figure 5. Documents and records per domain (N=41,701 deposits)

Now, what is the difference between the laboratories with and without collections on HAL, if there is any? The overall difference is not very significant: all collections together contain 21% documents, while the part for the labs without collections is slightly higher at 25%. However, there are some interesting differences between domains, as figure 6 shows.

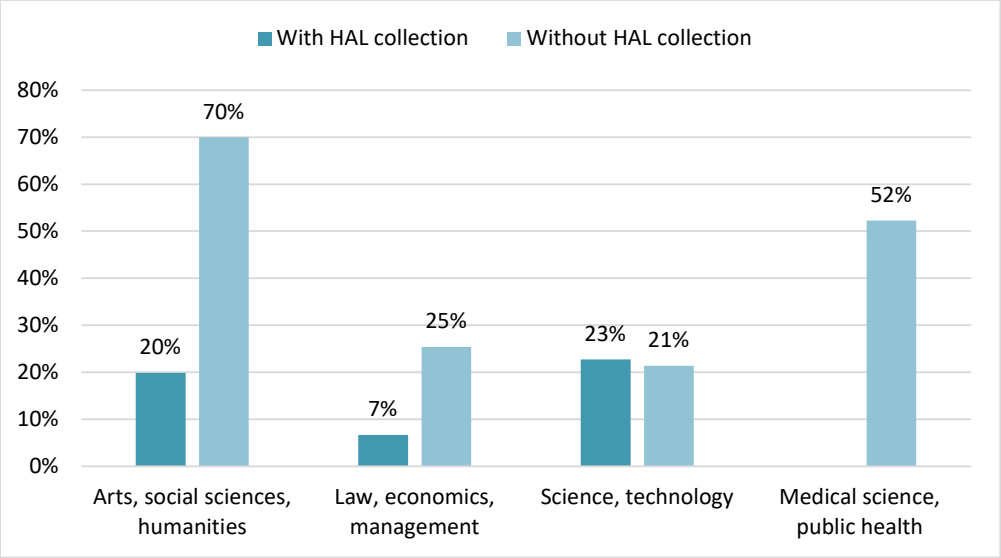

Figure 6. Part of documents (in %) of all deposits, per domain (N=41,701 deposits)

The collections of the research labs in arts, social sciences and humanities and in law, economics and management contain a relatively large part of records without documents, compared to the deposits from those labs without collections. At first sight this may appear paradoxical; yet, the explanation is easy (see below): when a research lab creates a collection on HAL, it probably will use the collection to make the academic production of its members visible, and this often means, to deposit records without the text or data files.

Grey literature

The HAL repository indexes 18 categories of publications, unpublished papers, academic works and research data. Some categories are clearly "white" or commercial literature (e.g. journal articles, books or book chapters), others can be described as grey literature (e.g. preprints, reports or dissertations) while other categories are mixed (e.g. conference papers), borderline (e.g. posters) or no literature (e.g. image files). Therefore, we didn't try to determine the exact number of grey documents among the deposits but we limited ourselves to evaluating some representative categories. Figure 7 shows the distribution of the selected categories, with their numbers and percentages; the most important categories of the deposits are journal articles (42%) and conference papers (communications) (33%), followed by book chapters (9%). Together, the selected categories represent 90% of all deposits from the Lille laboratories (N=37,546).

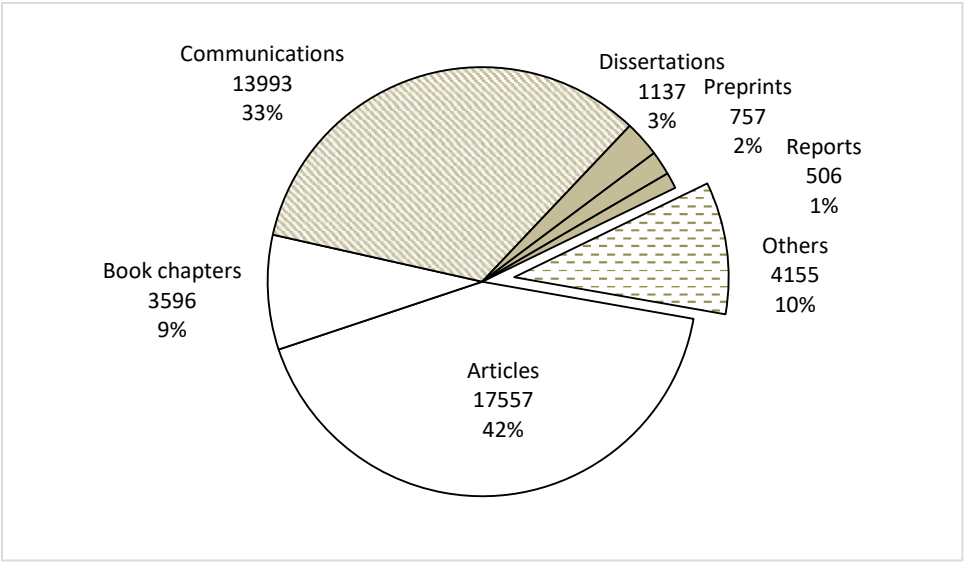

Figure 7. Deposits of selected categories (N=41,701)

Including conference papers (communications), the share of grey literature is 39%; without conference proceedings, grey literature represents 6% of all deposits. The problem with conference papers is that some of them are published in serials or books published by regular publishers while others are just PowerPoint presentations and will never be published, and it is difficult to say which percentage is really grey and which is not.

The next figure confirms the difference between conference papers on HAL and the other grey items. Figure 8 shows the relative share of documents and records (deposits without documents) for each category. While for most of the book chapters, communications and journal articles the full text is missing, 69% reports, 78% preprints and nearly all dissertations have been deposited with the document file.

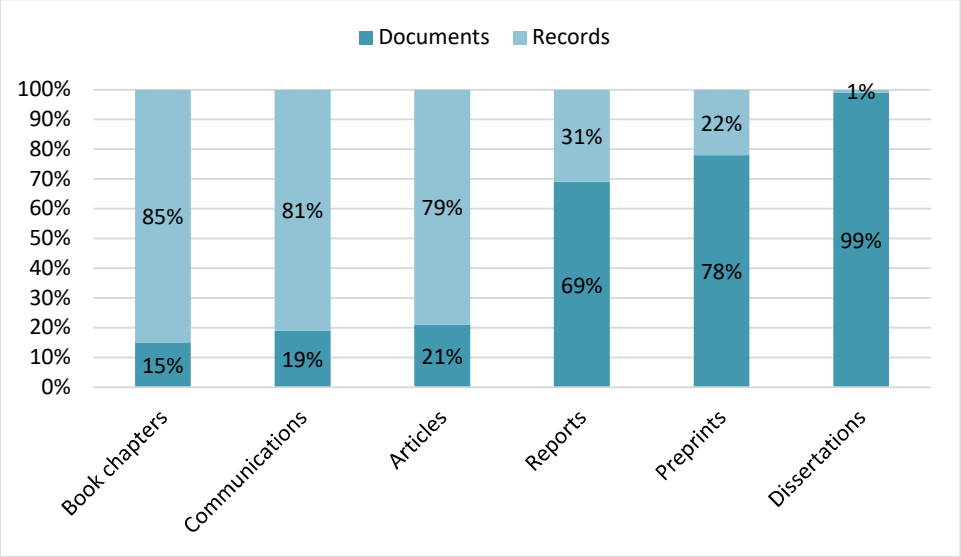

Figure 8. Records and documents per category (in %, N=37,546)

29% of the grey items is open access; without the communications, the part is 86%. For the "white" items (book chapters and articles), the percentage in open access is 20%.

Figure 9 shows a significant correlation between the number of grey deposits (preprints, reports, dissertations, conference papers) and the other items (articles and book chapters), with r=.84.

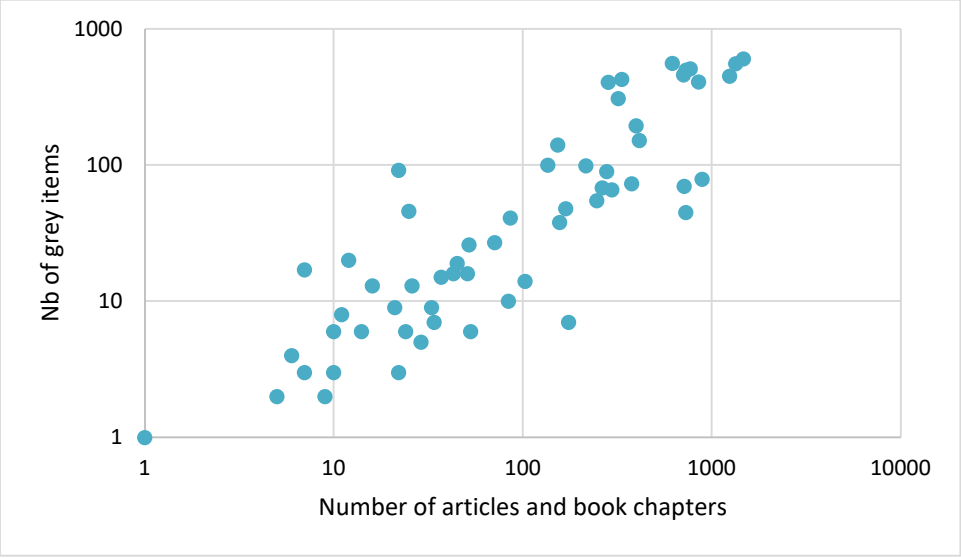

Figure 9. Correlation between grey and other deposits (N=66 labs)

It seems that the researchers or the technical staff who deposit the documents or create the metadata do not distinguish between different document types or prefer one or another. The

difference is just that there are in average 3x to 4x more articles and chapters than grey items. Also, we cannot identify any significant differences between labs with and without collections, or between scientific domains.

The next figure shows the strong relationship between grey items and the total number of deposits (figure 10). In order to compare these statistics with former results (Stock & Schöpfel 2009), we calculated the z-scores for both variables.

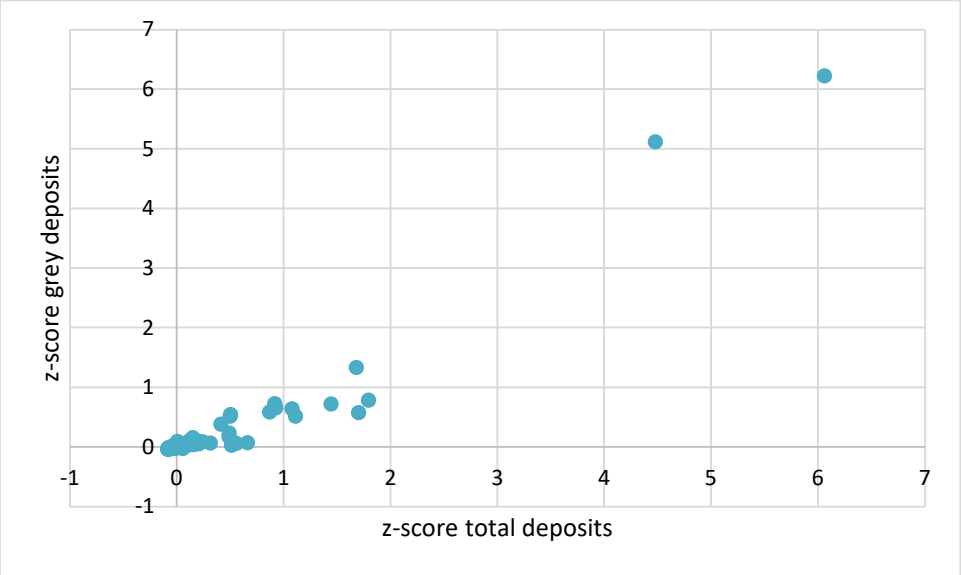

Figure 10. Grey deposits and total number of deposits (z-scores, N=66 labs)

The correlation between both variables is very high (r=.96). The higher the total number of documents, the higher the number of grey items. The two labs with the highest number of deposits are from engineering and informatics and have both created a collection on HAL. But, as above, we can't identify significant differences between labs with and without collections, or between scientific domains.

Clusters of laboratories

Finally, we'll try to distinguish different groups of laboratories regarding four variables: the total number of deposits, the degree of openness (deposits with full text), the existence of a collection, and the number of grey deposits.

Figure 11 compares the total number of deposits with the percentage of open access, i.e. of documents deposited with their full text.

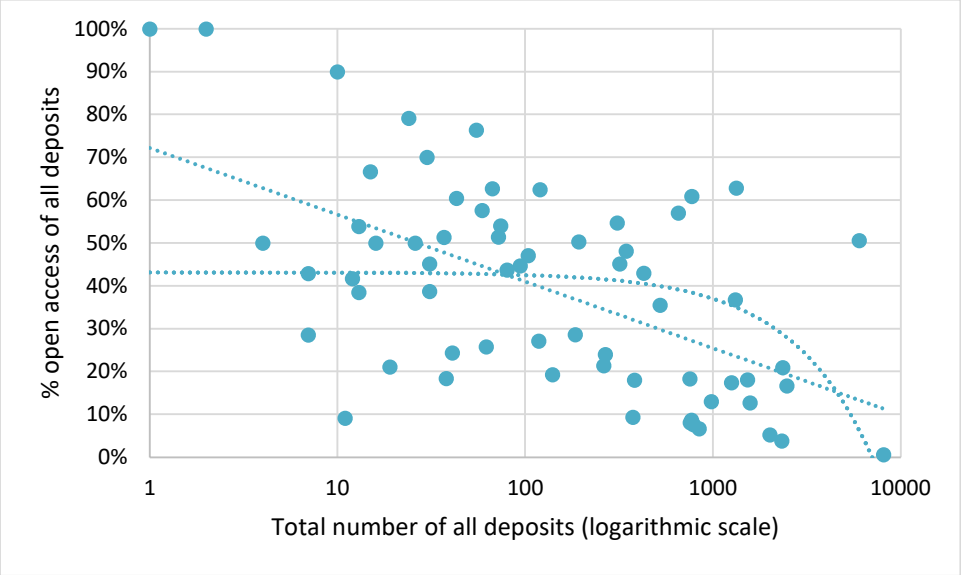

Figure 11. Total number of deposits and % open access (N=66 labs)

Figure 11 shows a weak negative correlation between the total number of all deposits (documents and records) and the percentage of documents in open access (r=-.34). In other words, we can observe a weak tendency in that the higher the total number of documents and records, the lower the percentage of freely accessible documents.

- Cluster 1. More than half of the laboratories (N=38) have less than 100 deposits on the HAL platform. Except for two, they did not create a collection on HAL. Probably, these laboratories do not have any significant strategy regarding open access and repositories, and the deposits are due to the scientists' personal choice, without "institutional curation".

These laboratories are clearly visible on figure 12 which presents the same figures but limited to those laboratories without a HAL collection.

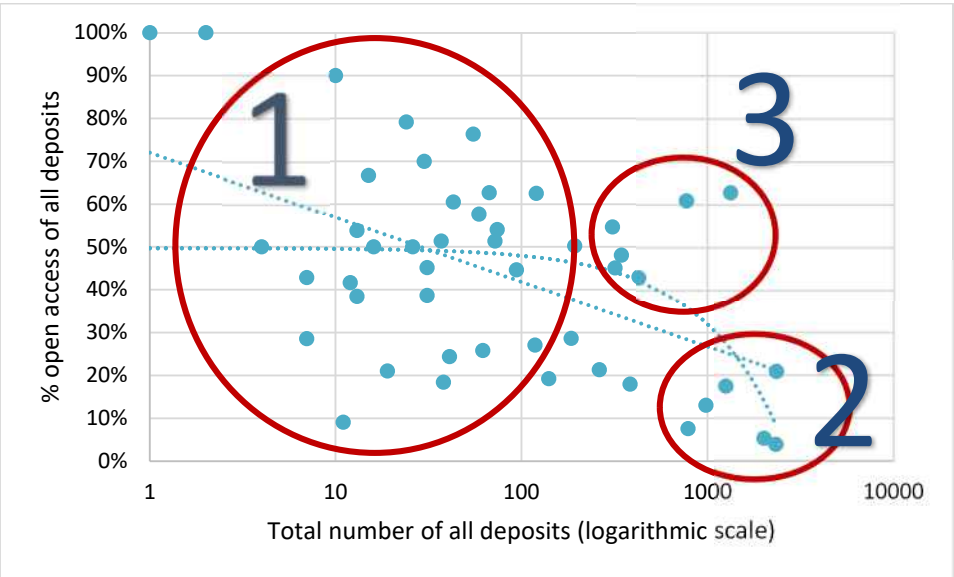

Figure 12. Total number of deposits and % open access for labs without HAL collection (N=50 labs)

Figure 12 shows two other groups.

- Cluster 2. A small group of laboratories (N=6) have a relatively high number of deposits (>700) but only less than 20% provide open access to the full text.
- Cluster 3. Another small group (N=6) have a higher number of deposits (>300), with more than 40% documents in open access.

The next figure shows the results for those laboratories which created their own collection on the HAL platform (figure 13).

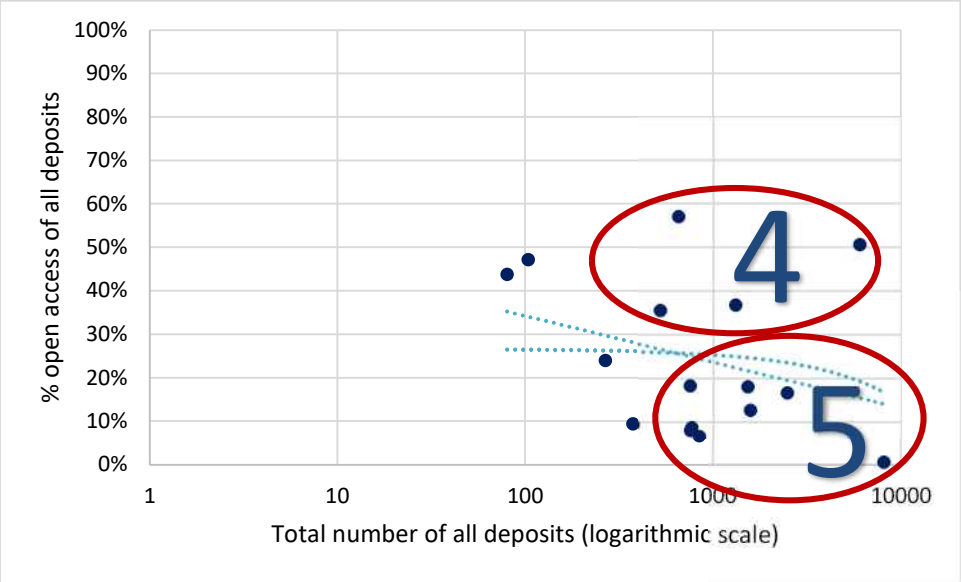

Figure 13. Total number of deposits and % open access for labs with a HAL collection (N=16 labs)

Following figure 13, we can distinguish two groups of laboratories.

- Cluster 4 (N=4). Four laboratories have a relatively high number of deposits (>500) and a percentage of open access above the average (>35%).
- Cluster 5 (N=8). A fifth group consists of laboratories with a large collection (>700 deposits) but a small percentage of open access (<20%).

As mentioned above, there are nearly no laboratories with less than 100 deposits.

Discussion

The scientometric assessment of the HAL deposits produces a lot of data, and the information based on these data may appear complex and difficult to understand. We'll try first to synthesize some significant results and then discuss them in terms of different strategies and policies. The main results:

- All research labs of the University of Lille are represented on the national HAL repository, except for one medical unit. Together, they have 41,701 items.
- One out of four labs have created its own, customized collection on the HAL server (24%).
- Together, these labs account for 63% of all items. The median number of items is higher for labs with collections than those without.
- Most collections have been created by research labs in arts, social sciences and humanities.
- The part of grey literature is 39%; most of these grey items are conference papers.
- The number of grey deposits is strongly correlated with the total number of deposits.
- 23% of the deposits are open access, the rest is metadata.
- This percentage is higher for grey literature (29%) than for articles and books (20%); without conference papers and presentations, this percentage is much higher (86%).
- Regarding the part of open access, there is a weak tendency in that the higher the total number of deposits, the lower the percentage of freely accessible documents.

The creation of a "lab collection" on the national repository HAL is a political and strategic decision to expose the scientific production of the laboratory's researchers elsewhere than on the laboratory website, on individual web pages or on the institutional repository. Often, this decision is part of a larger strategy to increase the visibility, outreach and impact of the laboratory's research results, which is important and relevant for individual and institutional evaluation, for funding, and for networking and cooperation.

In the following, we'll try to provide some possible explanations for the observed results.

Institutional policy

Institutional policy, i.e. an explicit and assumed open access strategy, can explain one part of the results, especially the overrepresentation of arts, social sciences and humanities. The Lille campus of social sciences and humanities (the former Lille 3 University) decided a couple of years ago to launch its institutional repository as a university portal on the HAL server and encouraged the campus-based research units to create their own laboratory collection on HAL. This encouragement included not only helpful advice and assistance but also, partly, the creation of metadata records.

There was no similar approach to open access in the other former Lille universities Lille 1 (science and technology) and Lille 2 (medicine, law and politics); they did not launch an institutional repository neither on HAL nor elsewhere, and they did not foster the creation of laboratory collections on HAL. This may explain why still today, nearly two years after the merger of the Lille universities, we can observe large disciplinary differences regarding the number of size of collections and deposits.

On the national level, the French national research institute for digital sciences (INRIA) has been promoting for a couple of years now an open access policy and has launched its own institutional repository on HAL[8], with today more than 60,000 documents, mostly conference papers. The INRIA scientific output is systematically entered into HAL and the INRIA researchers are encouraged to deposit their documents on HAL. One the INRIA regional institutes is located in Lille, and one of the INRIA research laboratories (CRISTAL) is based on the university campus, which explains the large collection of computer sciences (14% of all Lille deposits are from CRISTAL) and also the relatively high part of documents with access to the full text (51%).

Research laboratories

Research laboratories have quite different ways to deal with the HAL repository, and up to now they are more or less free to decide if and how to manage their publications on HAL or elsewhere. To simplify, we can distinguish at least three different approaches:

No strategy (58%): no collection on HAL, and a low number of deposits (<100) or a high percentage of documents in open access (>50%), which probably indicates individual practice (=deposit of publications by the authors) but no collective, coordinated action. This is the cluster 1 mentioned above.

Reference management (29%): a higher number of deposits (>100) but a low percentage of OA (<25%). Half of these laboratories have more than 1,000 deposits on HAL, up to 8,000, well above the average. Half of them have a collection on HAL, the others have not. Probably, at least those with the collection but may also be those without. These laboratories make use of HAL for the monitoring of their scientific output, helpful for reporting and follow-up and especially for the national research assessment exercises. For instance, the Lille IEMN laboratory in civil engineering (mechanics) which represents 19% of all HAL deposits of the University of Lille is a pluri-disciplinary federation of 12 research units, affiliated with different research organisations and the University of Lille. Obviously, this federation makes use of the HAL repository as a public and free reference management tool. In fact, only 1% of the 8,103 items from IEMN are documents, the rest of the items (99%) are metadata without access to the full text. This makes no sense for an open repository, but this makes sense if the repository is diverted for reference management and output monitoring. Clusters 2 and 5 are part of this category.

Showcase (9%): a collection on HAL, a higher number of deposits (>100) and a higher percentage of open access (>30%). These laboratories have decided to create a collection, and obviously they make efforts to deposit their output and to increase the part of freely available documents on HAL. Obviously, their use of HAL is to show their papers and to provide a representative catalogue of their production. The impact of community seems evident – the laboratories are from psychology,

[8] HAL-Inria https://hal.inria.fr/INRIA

literature, informatics, astronomy and information science (GERiiCO). These laboratories are mainly in cluster 4.

A small group of three laboratories (physics, medicine, law/political science) appears to be quite similar to this last group but did not create a collection on HAL. They are in cluster 3.

The reason to take one decision or another can be motivated by various factors, e.g. institutional policy or community practice, and also personal awareness and attitudes towards open access; sometimes the lack of human resources – one part of the university laboratories do not have their own librarians – may be a major obstacle to moving forward, i.e. creating and curating a HAL collection.

We added in brackets an estimated percentage. However, more information is needed to confirm the different approaches and the underlying reasons and objectives.

Disciplinary practice

Scientific disciplines do not adopt the new open science policy at the same speed and in the same way. The European Open Science Monitor, for instance, shows large differences between fields of science and technology regarding the percentage of open access publications[9]. Disciplinary practice and research culture may explain, for instance, the low percentage of OA deposits of chemistry laboratories (6%), sociology (19%) or law (37%) compared to computer science (50%), astronomy (61%) or mathematics (63%).

The CRISTAL collection in computer science shows another community effect beyond the institutional strategy of valorisation and evaluation. More than other academic communities, the researchers in computer science disseminate their results by means of conference papers. More than half of the CRISTAL collection is composed of conference papers, and more than half of these papers are available in open access, which is probably due to a combined effect of institutional strategy and disciplinary practice.

Grey literature

About ten years ago, we assessed the development of open repositories in France, particularly of institutional repositories (Stock & Schöpfel 2009, Schöpfel & Prost 2010). The three samples (and the sampling methods) are too different to allow for a direct, statistical comparison; however, it is possible to make some general observations.

First, the part of grey literature in the Lille sample is higher than in the national samples ten years ago. It was then between 16% and 18%; in our new study it is 39%, more than two times higher. This difference is essentially due to conference proceedings.

The same studies provided some data about the distribution of the different types of grey literature (figure 14).

[9] https://ec.europa.eu/info/research-and-innovation/strategy/goals-research-and-innovation-policy/open-science/open-science-monitor_en

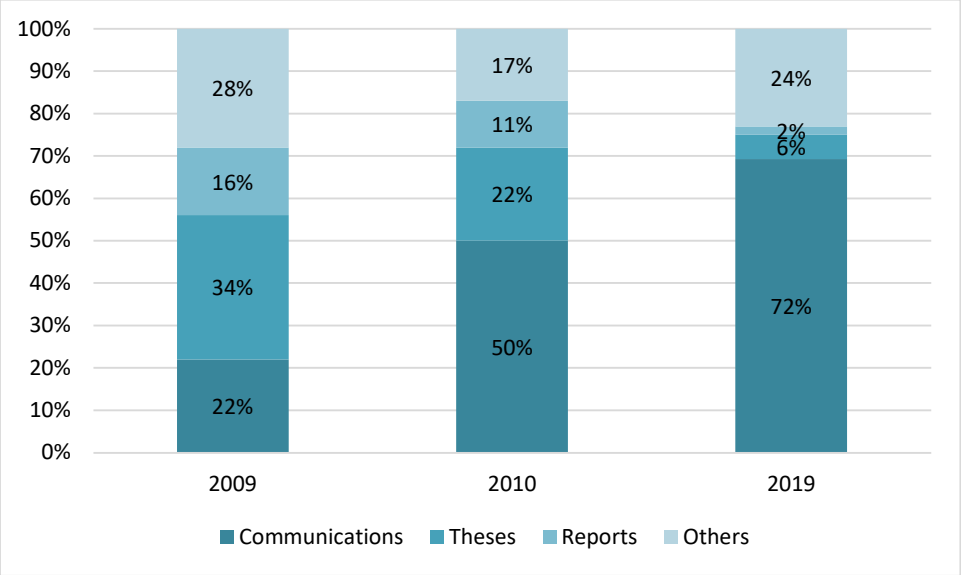

Figure 14. Distribution of grey literature categories in three samples (in %)

Again, because of the different sampling methods and characteristics, it is not possible to describe the differences in terms of development over time. Yet, it seems possible to say that the Lille sample is particular insofar as it contains a relatively large part of conference papers, as compared to theses and reports. The reason is probably the importance of the CRISTAL collection in informatics, with many conference papers, together with a high number of metadata records in civil engineering (IEMN) and from two laboratories in chemistry. In other words, the reason is probably a combination of community practice and laboratory strategy.

Five years ago, we assessed the part of freely accessible items in terms of degrees of openness in an international sample of 25 large institutional repositories, together with 2,068,622 deposits (Schöpfel & Prost 2015). We made two observations.

First, even if the correlation between the repositories' size and their degree of openness was weak, all large repositories had degrees of openness below the median while those repositories with higher degrees of openness (above the median) were smaller. As mentioned above (figure 11), the same observation applies for the Lille sample: we can observe a weak tendency in that the higher the total number of documents and records, the lower the percentage of freely accessible documents.

Second, the comparison between different types of documents reveals different degrees of openness, in a consistent way: except for conference papers, the percentage of freely accessible documents (open access) is higher for grey literature than for books or journals. Again, the same observation applies for the Lille sample (figure 15).

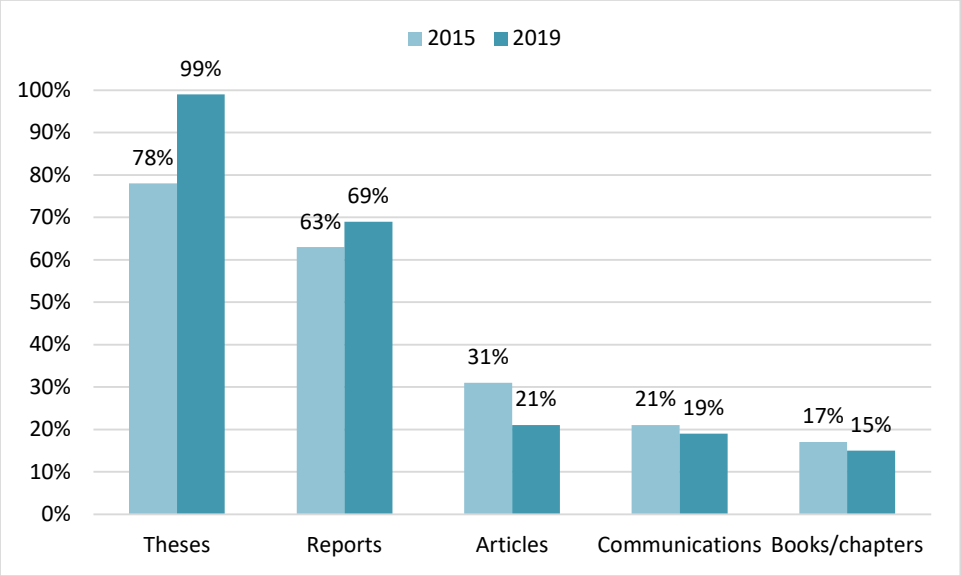

Figure 15. Degrees of openness for different document types

Again, we cannot make direct comparisons because of the differences of sampling, size and so on. But the similitudes are obvious. In the international sample of large repositories as well as in the collections and deposits of the Lille research laboratories in HAL, the degree of openness of theses and reports are significantly higher than of articles, books (chapters) and communications. The reason why in the Lille sample nearly all theses and dissertations are freely accessible (99%) is simple – up to now, HAL has not accepted the deposit of PhD theses without the full text. The explanation for the small percentage of conference papers in open access is more complicated. There are probably two reasons – many papers are published in (white) conference series or as special journal issues, and HAL does not consider the deposit of a conference presentation as a full text document but as a record with supplemental material.

Conclusion

The scientometric analysis of the deposits and collections from the University of Lille research laboratories provides rich statistical material and some insights into differences between document types, disciplines and laboratories. Grey literature represents nearly two out of five deposits, consisting mainly not only of conference papers but also of theses and dissertations, reports and other types, such as working papers, preprints and courseware. The degree of openness (% of open access) is significantly higher particularly for theses and reports than for articles and books, and also for conference papers.

The study provides a kind of static photo, taken at a given moment (Spring 2019) in a dynamic and quick moving environment. In fact, the situation may change quickly, for at least three reasons – local decisions (such as an institutional mandatory policy), national (and European) research policy with new laws and other rules, and new agreements with academic publishers such as BioMed Central or Elsevier, allowing for automatic feeding of the HAL repository from the publishers' platforms.

In order to better understand the open access behaviours and strategies on the level of research laboratories, and to provide more insight into the impact of the global ecosystem of open science on the individual and collective decisions on the local level, more research is needed, and a different kind of research. For this reason, the GERiiCO laboratory is undertaking a new research project on laboratory collections and strategies on the HAL repositories, with a representative sample of the ten highest ranked French research universities, accounting for several hundred research laboratories, and applying a combined quantitative (scientometrics) and qualitative (surveys, interviews) methodology[10].

[10] Project HAL/LO (*Valorisation sur HAL de la production des laboratoires dans l'environnement de la science ouverte*), duration 18 months, funding by the GIS URFIST.

Acknowledgments

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Data availability

The dataset is available on EASY (DANS) at https://doi.org/10.17026/dans-xsq-bus7

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AccessGrey: Securing Open Access to Grey Literature for Science and Society*

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Abstract

Persistent identifiers such as a DOI[1] for a publication and an ORCiD[2] for an author/researcher can be approached from both the demand-side as well as supply-side of information. It appears however that the former attracts more attention. Here emphasis lies in the access to and preservation of research output. Yet, it is on the supply-side regarding the acquisition of research output that persistent identifiers may by the same token have influence in identifying and populating prospective data archives and repositories. This study will look at the influence persistent identifiers have in securing the acquisition of grey literature for public access.

The goal of this project is twofold. First, to carry out a survey within the grey literature community as to the opinions, uses, and applications of persistent identifiers. And second, to initiate a project geared to populate a new collection housed in the GreyGuide Repository[3] by using the DOI as an incentive. Resources in Grey Literature (RGL) is as a generic, multidisciplinary collection that will serve for this purpose.

Using GreyNet's distribution channels and social media, stakeholders in the field of grey literature are invited to enter one or more of their publications in the RGL collection. Each new entry will receive a DOI minted by GreyNet International and further stored and preserved in the DataCite registry[4]. Also, a system generated citation will be added to each new entry in order to facilitate record use. The types of grey literature documents eligible for entry in the RGL collection are numerous[5].

Brief guidelines for record entry require that it be self-archived using the existing online-template and that both the metadata record and accompanying full-text document(s) are in English. An additional descriptive field does allow for entry in another language. And, a translation of the document can also be uploaded in the repository. Finally, it is understood that by submitting the metadata record and file(s), they become open access compliant under Creative Commons license CC-BY-SA[6].

The initial phase of the project commenced in April 2019 and closed in October 2019. Records harvested during this period along with the results of the survey will be analyzed in its second phase. In the final phase, the project's outcome will be published. Results should indicate whether the AccessGrey Project be extended to other collections in the GreyGuide, and if this project would be of value to other communities of practice in the field of grey literature.

Introduction

The goal of the project was twofold: 1. To learn the opinions, uses, and applications of persistent identifiers within the grey literature community and 2. to explore the use of persistent identifiers, namely the DOI, in the acquisition of grey literature. The method of approach was first to construct a questionnaire that would be used in an online stakeholder survey among a defined population within GreyNet. And, secondly to initiate a campaign among GreyNet's diverse stakeholders by using the DOI and a system generated citation as incentives to deposit documents in the GreyGuide Repository.

* First published in the GL21 Conference Proceedings, February 2020.

AccessGrey Project – Stakeholder Survey

Survey Questionnaire

A search was first carried out in the Collection of Conference Papers on Grey Literature[7] using the search terms "persistent identifier" and "DOI", which retrieved 16 full-text documents. Ten questions were then drafted based on the search results. Nine of the survey questions were standardized and one was open ended. All of the questions however did include a comment field. The questionnaire was then entered in SurveyMonkey[8] from which a link was generated.

Survey Population

The population of the stakeholder survey was drawn from GreyNet's Distribution List spanning entries from January 1, 2014 to April 24, 2019 - the date when the link to the online survey became operational. Only personal names with both surname and first name or initial were selected. The total population of survey recipients was 509. During the 5-week period in which the link to the survey was online accessible reminder emails were sent out. In total, there were 56 respondents to the survey accounting for an 11% response rate.

Survey Population	Survey Respondents	Survey Results x
509	56	11,0%

Survey Results and Shared Analyses

The results of the survey are included as an **Appendix** to this paper. However, to maintain the anonymity of the respondents, responses to Question 10, which include names and email addresses, have been removed. Once the online survey was closed to further response, a data paper was drafted and published alongside the survey data in the DANS Easy Archive. Of the 56 survey respondents, 29 chose to provide their contact details. Those who did, were then invited to analyze the data. Five of those respondents submitted their analysis and rightfully share in the co-authorship of this paper.

Excerpts from three of the five analyses are recorded as follows:

[**Excerpt 1**]

Persistent identifiers such as DOIs are making research more efficient. Additionally, as the existing protocols become more widely adopted, there will be even more improved access to information. Persistent identifiers are not only useful for identifying data but can also be used to store relationships and point to where other data may be stored. They were developed to prevent link rot and to ensure that objects remain available and unchanged. In this way they improve access to information and increase trust in scholarship and research.

It is assumed that the DOI would be only one factor to be considered as adding quality to a research publication. Other factors such as peer review, citations, impact factor, what other researchers say about the paper, author, date, etc. would also need to be considered to indicate quality of research. The assignation of DOIs to metadata records would not necessarily attract more content providers. However, the Open Access (OA) policies of the repository would definitely play a role in attracting content providers. The Grey literature community of respondents to the survey appear to be on the forefront of knowledge about the importance of using PIDs and DOIs. Research in the field of grey literature and its related data will become increasingly accessible as the research information infrastructure becomes more standardized and widely adopted. (***June Crowe***)

[**Excerpt 2**]

Researchers often search for references that are listed at the end of relevant articles. Over the years the URL links to some sources such as grey literature - often only accessible online - may not work anymore. If there is a persistent identifier, the access to grey literature remains stable and allows continuous access over time. The process of selecting sources that are scientific and relevant to the work of researchers is becoming more important than the ability to find and collect countless sources. In academic circles, when a mentor or professor checks the references listed and sees the DOIs next to sources that are grey literature, these resources actually "count" (even though in their eyes, grey literature may not be a scientific publication). There is a possibility that persistent identifiers such as DOIs, which are recognized worldwide, would encourage researchers to cite their local sources more often. If this is the case, then in some fields such as education, where work and training are led and informed by government guidelines and evaluations – all of which are grey literature (White et al., 2013) – then the results of this survey are encouraging. DOI by itself does not inform us about the quality of the document or data. It does, however, (in cases like a dissertation and a thesis) increase the possibility of connecting the research data with the thesis, which can be seen as a quality indicator, since the content becomes more scientifically provable when the data are available. The creation of the DOI depends on the policy of the repositories and is not directly connected with the quality of the individual record. If Slovenian repositories added the DOI identifier to each thesis, then all would have a DOI - not only the best ones. However, this is not yet the case. Where we now stand is that less experienced researchers may find it difficult to recognize a trustworthy piece of grey literature. In such cases, an international and well-known identifier such as DOI could assist them. (***Ana Češarek***)

[**Excerpt 3**]

A DOI is not only a persistent but also actionable, because one can plug it into a web browser and be taken to the identified source. In this way, persistent identifiers are strategic to research data outputs because they can be re-used for new research. The persistent characteristic is a guarantee even if the location of a data file may change when an academic changes institution, or when data archive systems become replaced. Examples, not uncommon to Grey Literature. Concerning the question, whether persistent identifiers serve as an incentive in the acquisition of grey literature, a near 27% of the respondents were uncertain. The comment "Probably right" by one of the respondents may be interpreted as a "selling point" to those who were not certain - given the fact that over 30% of respondents strongly agreed. When asked if a repository or data archive that assigns DOIs to metadata records is more likely to attract content providers – one comment was eloquently formulated "In practice this is the case, but the mere fact of assigning DOI's should not replace the other more intrinsic reasons for content providers to choose a certain repository". This question is in need of further insights to better understand and decide future choices for repositories and digital platforms. This holds particularly in the open access environment where Grey Literature could be a strong pilot light. When asked in the final survey question to provide contact details along with any other comments or recommendations. It is only after being asked to analyze the results of the survey, do I come to recommend perhaps an online course such as a MOOC (massive open online course) that would deal with the meaning and functions of persistent identifiers, their structure, environments, uses and different types. As but one of the 50+ respondents in the survey, we are all assumed to be interested and somewhat experienced. Imagine all the other authors, librarians, and documentalists who work with grey literature. Training in persistent identifiers such as DOIs and ORCiDs would no doubt prove worthwhile.
(***Antonella De Robbio)***

AccessGrey Project – Acquisition Campaign

The second part of the project dealt with the acquisition of metadata, full-text records using the DOI and a system generated citation as incentives for authors to deposit their grey literature documents in the GreyGuide Repository.

Acquisition Groundwork

In order to channel records to a multidisciplinary collection in the GreyGuide Repository, the existing online template for the RGL (Resources in Grey Literature) had to be revised to include a DOI metadata field as well as a system generated citation. Since the RGL collection is multidisciplinary, it was decided that records in the earlier GGP (Good Practices in Grey Literature) would be merged with the RGL Collection and DOIs would then be assigned to all existing records.

Acquisition Guidelines

Guidelines reflected in the metadata fields of the online template clearly indicate that submissions rely on self-archiving, that the metadata and full-text are in required in English. While other languages can likewise be included in designated fields. Furthermore, it is understood that all records are open access compliant via the CC-BY-SA License.

Acquisition Strategy

Strategies applied in the acquisition of new records have up until now relied on GreyNet's existing channels, namely its Distribution List, The Who is in Grey Literature[9], Authors who published in the International Conference Series from 2015-2019, GreyNet's Social Media (Facebook[10] and LinkedIn[11]), and the International Directory of Organizations in Grey Literature[12].

Acquisition Results

To date, the acquisition of new records has been far less than initially anticipated. The RGL Collection[13] accounts for only 56 full-text records. However, this sample does indicate that the records are multidisciplinary, they represent works from various sectors of government, academics, business, and NGOs. Furthermore, the sample records are published by some 26 corporate authors, from 13 countries worldwide, and together illustrate 17 different grey literature document types.

AccessGrey Project – Outcome and Way Forward

While the results of the Stakeholder Survey clearly indicate the value of persistent identifiers for grey literature, the campaign for the acquisition of records with the incentive of a DOI and system generated citation has until now been considerably less than expected. Given the amount of technical development that has been invested in the start-up of this project, it is considered worthwhile to extend the duration of the AccessGrey Project into 2020. New strategies for the acquisition of records in the RGL Collection reaching beyond GreyNet's current catchment will need to be considered. And, the GreyGuide Repository in which the RGL collection is housed should apply for registry in OpenDOAR[14], a quality-assured global directory of academic open access repositories. For it is established that the Open Access (OA) policies of a repository definitely play a role in attracting content providers.

References

[1] https://www.doi.org/

[2] https://orcid.org/

[3] http://greyguide.isti.cnr.it/

[4] https://search.datacite.org/works?query=greynet

[5] http://www.greynet.org/greysourceindex/documenttypes.html

[6] https://creativecommons.org/licenses/by-sa/2.0/

[7] http://greyguiderep.isti.cnr.it/listtitoli.php?authority=GreyGuide&collection=GLP&langver=en&RighePag=100

[8] https://www.surveymonkey.com/

[9] Who is in Grey Literature, http://greyguiderep.isti.cnr.it/listtitoli.php?authority=GreyGuide&collection=BIO&langver=en&RighePag=100

[10] https://www.facebook.com/greynetinternational

[11] https://www.linkedin.com/groups/3718857/

[12] http://www.greynet.org/internationaldirectory.html

[13] Resources in Grey Literature, http://greyguiderep.isti.cnr.it/listtitoli.php?authority=GreyGuide&collection=RGL&langver=en&RighePag=100

[14] https://v2.sherpa.ac.uk/opendoar/

APPENDIX

SURVEY RESULTS

Q1 Persistent identifiers increase access to grey literature

- Answered: 56
- Skipped: 0

Strongly Agree	55.36% (31)
Agree	33.93% (19)
Uncertain	10.71% (6)
Disagree	0.00% (0)
Strongly Disagree	0.00% (0)
TOTAL	56

Comments (5)

They can also distract from the main metadata themselves / Clarify the existence of the material and information itself and guarantee access to unstable content / Only if people know how to use them / Document become more trustworthy for readers / Especially DOIs via CrossRef.

Q2 Persistent identifiers serve as an incentive in the acquisition of grey literature

- Answered: 56
- Skipped: 0

Strongly Agree	30.36% (17)
Agree	39.29% (22)
Uncertain	26.79% (15)
Disagree	3.57% (2)
Strongly Disagree	0.00% (0)
TOTAL	56

Comments (1)

Probably right, may be seen as a "selling point"

Q3 Persistent identifiers increase the citation of grey literature

- Answered: 56
- Skipped: 0

Strongly Agree	55.36% (31)
Agree	33.93% (19)
Uncertain	8.93% (5)
Disagree	0.00% (0)
Strongly Disagree	1.79% (1)
TOTAL	56

Comments (6)

Possibly, but they could also introduce a bias / Although it is one of the methods of increasing citation, improvement of quality is also required at the same time / Perhaps the DOI code / Still a lot of work to be done in encouraging best practice in citation / If we use it (because it is more trustworthy), we have to cite it as well. (logical course) / DOI is helpful for reference (and citation) management.

Q4 Persistent identifiers allow for the preservation of grey literature

- Answered: 56
- Skipped: 0

Strongly Agree	41.07% (23)
Agree	41.07% (23)
Uncertain	14.29% (8)
Disagree	3.57% (2)
Strongly Disagree	0.00% (0)
TOTAL	56

Comments (4)

Digital Preservation is the management and maintenance of digital objects / Allow is maybe the wrong word, perhaps assist? / Preservation depends on the IT team / Probably.

Q5 Persistent identifiers are vital in linking and cross-linking data

- Answered: 56
- Skipped: 0

Strongly Agree	58.93% (33)
Agree	26.79% (15)
Uncertain	12.50% (7)
Disagree	1.79% (1)
Strongly Disagree	0.00% (0)
TOTAL	56

Comments (2)

The term "vital" gives too much emphasis to the phenomenon / DOIs are essential for linking data

Q6 A DOI is a quality indicator that increases the value of grey literature

- Answered: 56
- Skipped: 0

Strongly Agree	30.36% (17)
Agree	33.93% (19)
Uncertain	23.21% (13)
Disagree	10.71% (6)
Strongly Disagree	1.79% (1)
TOTAL	56

Comments (6)

Could be, but I wouldn’t vouch for it / It is but it shouldn’t be as it isn’t really any guarantee of quality / I don't think the DOI is indicative of quality, plenty of peer reviewed content with DOIs gets retracted, so where's the quality aspect there? / For me (I am a young researcher) this is true / For as much as I know it's not a quality indicator / It is an investment, and it adds value via the referencing and linking.

Q7 A repository or data archive that assigns DOIs to metadata records is more likely to attract content providers

- Answered: 56
- Skipped: 0

Strongly Agree	33.93% (19)
Agree	46.43% (26)
Uncertain	12.50% (7)
Disagree	5.36% (3)
Strongly Disagree	1.79% (1)
TOTAL	56

Comments (1)

In practice this is the case, but the mere fact of assigning DOI's should not replace the other more intrinsic reasons for content providers to choose a certain repository.

Q8 Do you have an ORCiD or other author/researcher unique persistent identifier?

- Answered: 56
- Skipped: 0

Yes	66.07% (37)
No	23.21% (13)
Not Applicable	10.71% (6)
TOTAL	56

Comments (5)

https://researchmap.jp/public/about / ORCiD / I am going to get it soon / And don't like it / Also other IDs (Web of Science, Scopus, HAL...)

Q9 Does one or more of your publications have an assigned DOI?

- Answered: 54
- Skipped: 2

Yes	74.07% (40)
No	16.67% (9)
Not Applicable	9.26% (5)
TOTAL	54

Comments (2)

I am not sure / I don't know

Q10 Please enter your name, email address, and any other comments or recommendations that would be of benefit to this survey

- Answered: 55
- Skipped: 1

I choose to remain anonymous	47.27% (26)
I include my full name and email address, below	52.73% (29)
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Open Educational Resources and Library & Information Science: towards a common framework for methodological approaches and technical solutions [*]

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Abstract
Openness, flexibility, innovative approaches, digital dimension, liquidity and high granularity characterize Open Educational Resources (OERs), which therefore are grey literature par excellence.
OERs possess these features to a much greater extent than does the Open Science (OS) galaxy, because the manifold constellation of education is broader and much more multifaceted and transversal than the scientific and scholarly community, that is still, for the most part, Polanyi's and Merton's autonomous Republic of Science.
Indeed, the peculiarities of Library and Information Science (LIS) sector and of its latest developments contribute to increase complexity of scenarios. In fact, Library Science and Documentation, with their influential legacy, and Information Sciences through digital revolution have radically evolved, moving towards extreme scientific specialization and growing professionalization.
LIS competences on one side have become transversal and essential skills in the current knowledge societies; on the other side, they have widely spread out over all the scientific-disciplinary sectors, merging with various knowledge and specific domains and fertilizing their different segments. This unprecedented hybridization process has entailed a partial loss of LIS identity, stressing fluidity and versatility inherent in OERs; hence it has highlighted the need for guaranteeing quality, integrity, authenticity, consistency and traceability of OERs in the LIS field, in the same way as for the OS within the scholarly information and communication system.
In this paper we propose a comprehensive framework, which provides methodological, organizational, strategic, technical and technological indications in order to address the problems and new challenges described above.
The model suggests criteria, methods and tools to analyze the specific context and to identify solutions able to manage appropriately information resources and the related processes and to increase their value: processes regarding both resource lifecycle management and framework configuration control. Technical and technological solutions are also examined, in order to manage more efficiently considerable heterogeneous sets of OERs in the LIS field.
With regard to technological systems and tools, special attention is paid to the opportunity to develop validated and certified platforms, for providing quality levels in shared contexts, and persistent identification systems, for guaranteeing resources integrity, traceability, etc.
In our view, the suggested framework and tools can contribute to the development of systems more equipped to support and enhance the management of OERs in the LIS domain.

1. OERs and Science landscape: a fruitful correlation

The galaxy of Open Educational Resources (OERs), although strongly connected to Open Science (OS), is characterized by a more conspicuous polycentric nature, by an even more experimental vocation and by a greater dynamism. Their disorderly richness and complexity, their preference for crossing approaches and blended products, and their particular sensitivity to the ever changing global trends contribute to sharpening their variety and liquidity.
OERs refer to technology-mediated learning related both to Education and Training, aimed at widening access beyond the formal constraints and boundaries of the official systems and at promoting inclusion and participation in the current knowledge society. They are heterogeneous didactic objects, sometimes structured, more frequently versatile, so that, thanks to increasingly advanced technologies, they allow to build linear sequences, both logical and chronological, new products and original paths, or to create and/or to use and re-use the smallest units. In these objects differences among the product types have lessened; furthermore, purposes, methods,

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practices and manners in which they are used have become more and more polyvalent and flexible, so that they are grey literature *par excellence.*

Their main features, which can explain their strong versatility and high granularity, are the following:

- *Openness*, an essential characteristic although sometimes implicit, referring to a socio cultural milieu that includes an aspiration towards a global, open, pluralistic and inclusive society, based on universal access, equity, *education for all*[1], empowerment and emancipation of individuals and communities;
- *Digital dimension,* which involves the unstoppable integration between humans and technology, the expansion of the Network, participatory technologies and social media, and the strengthening of digital convergence; it allows to create and circulate, at different processing levels, a diverse range of resources, contents and products, which have been built and modified without interruption by teachers, trainers, and learners, in various mutual combinations;
- *Innovative approaches,* which are fostered by dominant constructivist and socio-constructivist paradigms, that unanimously favour, among teaching-learning methodologies, scientific methods, inquiry-based, project-based and experimental learning, problem solving approach and active, significant and cooperative learning, entirely focused on the learner, who is the real protagonist of any educational process.

In this perspective, *e-learning* has prevailed, because it provides widespread access, interactivity, plural didactics, many very diverse methods, techniques, practices, languages, tools and services; and OERs are close to *flexible learning,* thanks to some common characteristics: distributed access, ease and adaptability, broader opportunities for study, by overcoming space and time constraints, and for peer collaboration and sharing, and a considerable cost reduction and effectiveness, compared to more traditional systems.

Producers and users, teachers and learners, experts and non-experts take part in the creation process of OERs equally: author and user roles are often blended and even multiple, and boundaries amongst formal, non-formal, informal and lifelong learning have faded, leading to the development of hybrid, intermediate and partial solutions.

Lifelong learning and e-learning predominance has released education and training from traditional space and time constraints – which concentrated and isolated them in plainly distinguishable institutional contexts and in clear-cut human life stages – so that they are now split and spread out over the entire course of life, as a permanent and fundamental attribute of human beings.

As compared with scientific and scholarly world, still today grounded in the traditional model, within the manifold constellation of education and training the opportunities offered by the digital revolution[2], the growing integration of formal, informal and non-formal learning, the rise of lifelong learning and the enhancement of informal, non-formal and cross-discipline learning have increased the genuine multiplicity and the vitality of these sectors, encouraging active and proactive participation of many actors outside formalized contexts and continuously expanding learning approaches and environments.

With this regard, deepening the comparison between science and learning scenarios, it is noted that the new technologies irruption significantly changed both traditional systems of science and scholarly communication, breaking boundaries between science and scientists on one side and broader society on the other side, in the pursuit of closer cooperation among scientists, greater participation of citizens, transparency and disintermediation. It challenged and shook independence, self-sufficiency and self-regulation of the scientific community, radically transforming, at the same time, scholarly information and communication, thanks to the accelerating growth of grey literature and data sharing, to the rising of new content creation modes, to the renewal of scientific research language.

ICTs have allowed scientists to share and make available, through their virtual networks, a huge variety of contents and products which accompany, support and report scientific work and results, in real time, while carrying out their research activities: they lack completeness and standardization and show a high degree of fluidity and granularity.

[1]The UNESCO's programme on "Education for All" (EFA) was launched in 1990 and later reaffirmed by the Dakar Framework for Action (2000) [1].

[2] through increasing networking, participatory media, ubiquitous computing, e-learning techniques and applications etc.

Thus, together with traditional types of research products, new types – i.e. contents, products, research data and results at different processing levels – continue to increase; in the scholarly information cycle, it has caused the growing liquidity of research phases, processes, and products.
Data and information explosion and related information environments heterogeneity made difficult their control, validation and certification. Today it is a key task for information specialists, that updated and renewed their roles, skills and expertise, in order to achieve it.
As is known, the science exemplary model, attributable to Robert K. Merton' *Republic of Sciences*[3] and to Michael Polanyi's *Independent Republic of Science* [3], was based on three pivotal elements:

- essential autonomy and self-sufficiency of science;
- fundamental self-referentiality of scholarly communication system;
- firmness of knowledge core, which allowed to outline disciplinary fields with reliability and trustworthiness.

Conversely, the scholarly information and communication traditional model – in which information specialists played a key role together with scientists – permanently ensured research quality, the recognition of intellectual authorship and the reputation of scientists and research institutions.
Despite the last profound changes, the traditional model is still active and essential today both as a concrete system for controlling, validating and organizing important parts of the scholarly information and communication system and as a deep schema able to influence and shape approaches, attitudes, cognitive and communication styles, and behaviours of the R&D system's actors – individuals, communities, institutions…
Today, in this field, the role of research libraries and information specialists is particularly crucial due to the ongoing revolution: in fact, they are the only ones able to control and certify the quality of research products and results, thanks to their broad spectrum of competences and skills related to knowledge and knowledge organization – i.e. the influential core legacy of library, documentation and information sciences, more complex and sophisticated disciplinary competences and expertise, and digital and web knowledge and skills, cross-discipline and close to computer science [4], [5], [6].

2. Seeking for a new LIS identity between tradition and contemporary challenges

As specifically regards LIS fields, the rise of the science of clouds and of the complexity epistemology – both dominated by non-linearity, problematicity, uncertainty, and unpredictability – the boosting of inter- and trans-disciplinary research produced two significant effects: fragmentation and decline of any hierarchical all-encompassing framework and of any systematic approach to knowledge organization[4] typical of these domains.
The dissolution of traditional models for knowledge organization – both epistemological and pragmatic – has considerably contributed to the exceptional increase of LIS specialization: LIS knowledge and competences have become specific, precise and highly fragmented, radically renewing and closing themselves to specialised knowledge clusters, and to niches of extreme professionalization. Aspects, knowledge, expertise and skills which are currently most required – i.e. digital competences and web skills – are emphasized, because they are considered the most useful and important [5], [7], [8].
Simultaneously, LIS competences – those related to an aware and critical use of information and scientific and methodological ones – have lost awareness of their original identity, so to speak, and they have widely spread out over all the scientific-disciplinary sectors as foundation of every research activity, merging with various knowledge and specific domains and fertilizing their different segments [9].
In fact, in many educational institutions, especially within the Higher Education sector, they merged into a composite area, called in different ways, that is a cornerstone and often a crucial preliminary step for higher education programs: *study skills, learning skills, research skills, research methods, research method skills, academic skills, science literacy, scientific literacy, scientific skills, scientific inquiry skills*… [10].
More generally, especially with regard to the critical use of information, LIS competences have become core transversal skills in the contemporary age: information literacy, information skills, information competences have become key pillars of the most advanced societies.

[3] based on "the normative structure of science" and intended for "the development of codified certified knowledge" [2].
[4] aimed at systematizing science and its results and inherent not only in bibliographical classifications, but also in the Otlet's utopia.

Barack Obama declared October 2009 as National Information Literacy Awareness month in the USA. The Presidential proclamation "highlights the need for all Americans to be adept in the skills necessary to effectively navigate the Information Age". It is pointed out that "Rather than merely possessing data, we must also learn the skills necessary to acquire, collate, and evaluate information for any situation. This new type of literacy also requires competency with communication technologies, including computers and mobile devices that can help in our day-to-day decision making". Thus *information* and *digital component* are stressed as critical issues for the present and future world.

It is also stressed that information literacy is the new essential literacy, in order to exercise real citizenship, active and democratic: "An informed and educated citizenry is essential to the functioning of our modern democratic society, and I encourage educational and community institutions across the country to help Americans find and evaluate the information they seek, in all its forms" [11].

At the European level, in the global knowledge society perspective, the Recommendation of the European Parliament and of the Council of 18 December 2006 underscored eight key competences for lifelong learning, defined as "Europe's main asset" and "a key measure in Europe's response to globalisation and the shift to knowledge-based economies".

Some cardinal LIS competences were clearly identified within the *digital competence*: *digital* component ("basic skills in ICT") was predictably at the forefront, focusing "the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet"; then the emphasis shifted toward *information*, its relevance, validity and reliability, and toward its skillful use, complying with ethical principles; finally, *critical and reflective* dimension was stressed, through critical thinking and "a critical and reflective attitude towards available information and a responsible use of the interactive media."

Other LIS competences – more methodology-oriented and less characterised by discipline-specific subjects and approaches – can be found within *learning to learn* which encompasses – together with autonomous learning and problem-solving attitude – the ability "to access, gain, process and assimilate new knowledge and skills" [12].

More recently, the Council Recommendation of 22 May 2018 on key competences for lifelong learning has redefined and updated "the set of key competences needed for personal fulfilment, health, employability and social inclusion". In particular, in the *Annex - Key Competences for Lifelong Learning. A European Reference Framework,* amongst the eight key competences set out, *digital competence* now "includes information and data literacy, communication and collaboration, media literacy, digital content creation (including programming), safety (including digital well-being and competences related to cybersecurity), intellectual property related questions, problem solving and critical thinking". The focus is again on the masterful use of technologies – which is connected with active citizenship and social inclusion –and then on information and information skills; the main stress is put on critical, reflective and scientific methodological aspects, which disappeared from *personal, social and learning to learn competence*[5] and have been incorporated in this area too [13].

The two knowledge and competence areas previously identified, currently most widespread and most successful – the first, aimed at science education and at acquiring methods, study and scientific methods skills, and the second, including transversal competences centred on information use and digital dimension – don't explicitly show their common LIS ancestry.

Rather, such loss of identity seems an indisputable and irreversible fact, commonly accepted in LIS domains too.

However, contemporary science has posed new challenges, to which only a LIS community very aware, stable and solid from the identity point of view could successfully respond. In fact, science has recovered a broad epistemological and methodological perspective, unitary and overall, thanks to the 'ecosystem' notion, the constructive exploitation of Prigogine's dissipative structures theory and of inter- and trans-disciplinary approaches, as well as thanks to an extended, diverse and inclusive community of experts, able to establish and maintain an open dialogue.

[5] more focused on personal growth, self-awareness, resilience capacities, self-learning, communication and relational skills.

Therefore, current science needs a worthy scholarly information and communication system, able to fulfil its ambitious expectations: research libraries and information specialists can play a strategic role, capitalising both traditional and new knowledge, skills and expertise; and they can also regain a strong common identity, no longer through a top-down approach – today unworkable in a such dispersed and fragmented scientific-disciplinary area – but through a largely bottom-up process, thanks to the gradual confident accession of increasing LIS segments.

3. The Open Education political strategic perspective and its implementation in Europe

We provide a short description of problems related to the state-of-art open education (OE) initiatives, with special regard to the European framework for policies, strategies and programmes and to their implementation in the different Member States, in order to better contextualize the issue focused in the next paragraph.

We extracted some elements from recent studies ordered by the European policy makers, with the main goal to analyse and to evaluate the financial support opportunities for OE initiatives and, at the same time, to define strategies and actions for their development.

Most studies have deeply analysed national educational and organisational contexts, infrastructures and services, in order to measure their innovation degree from both didactic-pedagogical and technological perspectives. They also provide political and strategic recommendations and concrete proposals aimed at solving complex problems inherent in the OE initiatives [14], [15], [16], [17].

From the analysis carried out, it emerged that the state-of-the-art OE initiatives show significant differences from country to country.

In the most EU countries – among which Italy too – the OE potential is not yet fully exploited. Only a few countries – that have achieved a good level of development – are the exception to the rule. The lack of support from central government, i.e. the lack of national plans for structural and implementation interventions at systemic level, is the main gap.

Moreover, there are often critical factors related to single national and local institutions. Among them, an insufficient spread of management and organizational culture applied to educational contexts and, more generally, a limited inclination towards innovation stand out [18].

In a report published in 2007 the OECD - Organization for Economic Co-operation and Development highlighted that the rapid growth of OE initiatives in Europe and across the world could frustrate innovative potentialities of open didactical resources, if it was not adequately supported at the political and institutional level.

There is still today a considerable need for international, European and national actions centrally coordinated, to enhance and strengthen the management capacities of institutions, which operate in various ways in the OE sector.

In fact, several problems, emerged from a more accurate analysis of national contexts, all together have negatively influenced at national level the following governance macro-processes of OE initiatives: the planning of economic and financial initiatives and interventions; the development of strategies and implementing guidelines; the implementation of operational programmes; the management of interactions among different public actors.

Identifying and structuring all the problems is definitely not a simple matter and analysing multiple cause-effect relationships among them is even more complex. Moreover, these relationships are only rarely linear; in most cases, they are simultaneously vertical, horizontal, transversal and circular.

Therefore, in order to formulate effective intervention plans it is essential to identify the problems, which constitute the *core causes* of the critical situation outlined above. It is not by chance that the European institutions and the other bodies supporting their policies and strategies in recent years have headed towards that right direction adopting a systems approach [14] [19] [20] [21] [22] [23].

Nevertheless, it is hard to encourage and achieve the same level of *real change* within the different national systems, because the *capacity to manage OE initiatives* corresponds to the *actual capacity to innovate*, which shows many differences among countries.

4. Project management, an opportunity for the LIS world

At this point, it seems appropriate and necessary to limit the scope of the topics covered in this paper in order to provide a more concrete contribution, although essentially consisting of methodological recommendations.

It is useful to first define "the scope of intervention" of this contribution:

- *Subject*: OERs in the LIS field;
- *Context*: Research & Development – academic and research institutions in the EU member States;
- *Aim*: to carry out collaborative (inter-institutional) OER initiatives, aimed at contributing to the training and development of new professional profiles to be employed in innovative library and information services supporting R&D processes;
- *Key actors* (in charge of content creation development and management and of service delivery): Librarians and Information Specialists;
- *Beneficiaries:* librarians and information professionals engaged in the scholarly information and communication sector; personnel charged with digital resources management in science and technology fields; ICT workers; researchers; institutions;
- *High-profile policy and strategy responsibilities*: policy makers; directors of the governance of academic and research institutions;
- *Policy*: formal laws, regulations, rules, and guidelines;
- *E-infrastructures:* a combination of digital technologies (hardware and software), resources (data, tools and services), communications (protocols, access rights and networks), people and organizational structures needed to manage them.

We consider some general *purposes*:

- To enhance spread and quality of LIS methods, practices, and tools within training initiatives addressed to the development of new careers and professional figures for innovative library and information services in the R&D sector [23];
- To ensure the effective cooperation of the institutions operating in Library & Information Sciences, Information & Communication Technology, Information & Knowledge Management sectors;
- To contribute to guaranteeing the quality of services and products and the transparency of governance and management processes of OE initiatives, through the shared adoption of inter-institutional policies, procedures and standards, and effective and, at the same time, flexible business models;
- To strengthen the potential and peculiarities of the individual participating institutions and, simultaneously, to trigger virtuous paths in order to create and consolidate proactive synergies (capacity building);
- To contribute to improving interoperability between IT systems dedicated to the management of repositories and application services, also in order to ensure their sustainability.

We continue with the analysis of the main advantages and problems that most commonly characterize OE initiatives in R&D contexts.

The advantages:

- teaching innovation and internationalization;
- visibility and enhancement of the teachers' and institutions' skills and knowledge;
- cost reduction;
- greater flexibility of the didactic proposal and better usability of contents and services;
- improvement of interactions between the different competences in the LIS context, and a consequent increase in the overall volume of knowledge;
- improvement of consulting services to support researchers' activities, especially in the context of project initiatives that involve research data and information management;
- increase and diversification of learners and the opening towards other learning communities different from the traditional ones;
- growth of interactions and exchanges with other teaching communities (other institutions, companies, professionals, etc.);
- …

The problems:

- insufficient integration of the policies aimed at developing multi-level governance systems to support OE initiatives, with consequent shortcomings in:
  - effective and flexible business models capable of ensuring the sustainability of OE initiatives;
  - analysis of the educational needs of the R&D community and, more generally, of any other beneficiaries;
  - executive level planning and management;
  - support and training for teachers;
  - incentive and recognition systems for individuals and groups;
  - unique guidelines and shared quality criteria;
  - transparency and quality of OERs creation, delivery, use, integration / enrichment and reuse processes;
  - political and organizational measures to encourage OERs reuse and sharing;
  - transparent monitoring and cost-benefit assessment systems of the initiatives' overall impact;
  - integration of technological platforms dedicated to managing OE initiatives;
  - …

References to the strategic context: due to the chosen field of intervention, it is essential to consider not only the strategies, recommendations and programmatic measures defined by the European institutions in the field of Open Education, but also the strategic and programmatic framework defined by the same institutions in the field of Open Science [24], [25], [26], [27].
In fact, both European frameworks constitute the "ontological" and "conceptual" framework to which to refer, and, at the same time, the strategic direction framework towards which to guide OE initiatives, anchoring them concretely in the R&D context.

Methodological and management references: keeping in mind these high-profile references, let's try to think of an OE initiative in the LIS field - managed through an institutional partnership - as a complex set of activities organized to achieve a single, non-repetitive goal. This set includes the planning of the initiative, the development and control of the individual activities that make it up, the constraints (human resources, costs, time, quality), the intermediate results and the final results. All of this corresponds to a definition of "project" typical of the Project Management (PM)[6] theories and methodologies.
It is interesting to note that the latest PM theories link the concepts of "change" and "networking" to the term "project".

Also in the selected intervention area, *designing* implies "innovation" and "inter-institutional, inter-disciplinary, inter-functional collaboration", with a marked focus on coordination and on aspects such as: sharing, communicating and motivating the key actors and the organizations which they belong to.
Among other things, the approach to networking is necessary to support the medium- / long-term innovation trends in research libraries [23].

What PM methods could be concretely applicable to the design of OE initiatives on LIS topic in the context of academic and research institutions?
In complex environments, as most public ones, for the most part PM problems derive from an outdated vision based on the assumption that the expected results can be adequately determined already at the beginning of the work and subsequently achieved, following exactly what was planned (Theories of Control, Organization Theories). This approach to project management only works for a very limited number of projects, usually small and of very short duration.
A project, like those considered here, cannot be assimilated to a "system", especially if it is medium-sized or large scale and involves different actors. Consequently, PM methodologies -

[6] Among the many definitions of "project", we cite: "A project is a temporary endeavor undertaken to create a unique product, service, or result. The temporary nature of projects indicates that a project has a definite beginning and end". (PMBOK® Guide, 5th Edition, Chapter 1, Section 1.2, p. 3). "The systemic management of a complex, single and fixed-term company aimed at achieving a clear and predefined objective through a continuous process of differentiated planning and control and interdependent cost-time-quality constraints" (Russell D. Archibald, Managing High-Technology Programs and Projects, 2003). "A unique set of processes consisting of coordinated and controlled activities with start and finish dates, undertaken to achieve an objective" (ISO 21500).

based on a systemic vision of the project, which above all uses the control systems - do not seem suitable to support the management of many current projects, relying on their own efforts. In fact, most of them can be more easily described as *a complex set of adaptive actions and interactions*: a project should be able to adapt and change itself according to the specific context of reference, the experience gained and the changes that gradually occur during its execution.
Therefore, it would be necessary to make use of the support of knowledge and skills capable of "rethinking" the project (analysis of problems / constraints / conditionings) and able to choose methods and tools that best meet its specific needs, drawing on a great variety of methodologies and solution tools (*adaptive pluralistic approach*).
To effectively manage a project and, above all, to better manage the problems that usually arise more visibly in the operational phase, it is necessary to refer to a *model*.
The most complex work consists of the construction of a model conceived according to the specificities of the individual project because, as already mentioned, each project is a *unicum*.
The model is the idea of *how the project should take place.* It is the output of the "Analysis and definition of requirements" phase (architectural phase) and constitutes the basis for the generation of the "Project Plan", which defines its operational translation. The “Project Plan” defines a coherent set of governance and execution processes that allow the achievement of continuity objectives, as well as specific ones, taking into account the constraints that act on the project itself.
The quality of the project model highly depends on the number of variables analysed to define its architecture.
The project operational phase should start only when the model has reached a satisfactory degree of reliability and stability.
In many contexts, the importance of the "Analysis" phase is often underestimated. Thus in the face of the effort to ensure a more rapid departure, there is often a series of "setbacks" and strenuous "restarts" of the project, linked to continuous "recycles" in the execution phase.
The awareness of the problems that can arise from the context of constraints and conditionings of various kinds, and at different levels, allows not only to assess the actual feasibility of the project, but also to foresee possible solutions and the related operational application methods.

How to ensure the quality of a project?
A highly accredited method is the following: key actors should "control" the project - in all phases of its life cycle - through a continuous debate with the final beneficiaries.
In the case examined here, satisfaction of the beneficiaries’ training needs depends on different factors: the success of OE initiatives, the quality of processes and contents made accessible, the possibilities for enriching and re-using contents and technical-technological tools.
In the variegated scenario of Open strategies and initiatives, the concept of "ownership" has been the focus of a very interesting international debate for several years, which also involves Open Education stakeholders.
Many PM methods and techniques are available to support those who intend to design and effectively manage OE initiatives within the R&D institutions. These methods and techniques, appropriately adapted to specific contexts, allow processes to be governed more easily, constantly checking the activities progress, reviewing and updating the planning, evaluating the phase and final results.

Since the 1990s, the programming of many EU Directorates-General has been inspired - and is still inspired - by concepts such as partnership, negotiation, mixed approach (top-down and bottom-up) and, above all, participation of a plurality of subjects.
The tools must necessarily be collaborative in order to manage "program governance" complexity (consider, for example, the different tools of negotiated programming). In this case, the main difficulties consist of ensuring effective collaboration among different subjects, both institutional and private, that must converge towards a common development goal.
To meet this need and, at the same time, to improve overall management, program and project mechanisms, ad hoc methodologies and project management tools have been introduced as, for example, *Project Cycle Management* (PCM), *Logical Framework Approach* (LFA), *Goal Oriented Project Planning* (GOPP) [28].

For example, the GOPP method envisages the figure of a moderator who assists the stakeholders (key actors and beneficiaries) to identify the project proposal, using special interpersonal communication and visualization techniques.

Among the widely used methods, Total Quality Systems (TQS) are also mentioned.
Today the approach to Quality is correctly defined as a set of actions that can and must be defined according to what customers (beneficiaries, in our case) expect.
Quality indeed has a significant impact on organizational efficiency, on beneficiaries' satisfaction and on organisations' visibility / competitiveness.
According to TQS principles and methods, the key actors who design OE initiatives should be in charge of defining explicit and implicit requirements for contents and services to be made available.
The methods used by the Total Quality systems include qualitative techniques (brainstorming, questionnaires, expert judgment, flow diagrams, process mapping and cause / effect diagrams); data analysis; statistical analysis.

Among the most widely used PM models, both at national and international level, there are the Project Management Body of Knowledge guide (PMBOK) and the PRojects IN Controlled Environments method, version 2 of 2009 (PRINCE2-2009). These methodologies are rather complex, nevertheless they can be appropriately used, at least in part, to plan and adequately manage different project types, including those on OE.

The references just mentioned give only a small sample of the many PM models available today.
However, none of them is totally applicable to any design context because, in general, there is not always a unique method to solve every problem. Therefore, it is essential to select the best methods (or part of them) among those compatible with the specific problem and customize them appropriately.
In fact, the models represent only a part of reality, usually related to the problematic situation in which you want to intervene. Therefore, it is always useful to analyse previously in depth the problems to be faced, in order to distinguish problems that can be solved by applying a model (or part of it) and problems that are not solvable, in whole or in part, through this approach.

Finally, we believe that it could be helpful to promote OE initiatives aimed at providing LIS key actors with a fair amount of knowledge on PM principles, methods and techniques.
It could favour the use of a common language to discuss crosscutting topics in all the OE core processes within the R&D system, improving the dialogue among library experts, computer technicians, researchers and between all these actors and the institutions.
The widespread application of PM methods and techniques would allow to effectively link high-level strategies to planning and operational planning of OE initiatives.

Methodologies, IT tools and service levels

As a final note, we would like to discuss some rules of thumb to apply when choosing a methodology (or a set of methodologies) for a specific project.
As previously stated, each project is a *unicum* and requires a different approach. In our opinion, a flexible one is to pick from each methodology the elements that best suit the features, goals and constraints that characterize the project in question. We thus prefer tailoring and merging methodologies over choosing a single one. Some aspects of the project that could influence the choice are complexity, lifespan, heterogeneity of the stakeholders and deliverable types. For instance, agile methods are more suitable for simple and short-lived projects, whereas more structured and standardized methods are required for long-term complex projects.
A recurring problem in the current scenario, especially for long term projects, is the rapidly changing environment that could modify both the goals and the assets that can help achieving them. In those cases detailed planning should initially be done only for the first period (e.g. year 1) whereas for the following ones it may be sufficient to define the milestones and a general outline of the activities. Plans are by nature in constant evolution and can be updated and enriched with more details as the project proceeds.

It can also be useful in a dynamic environment to organize the activities in short iterations that produce results that can be objectively tested by the stakeholders. This dramatically increases the common understanding of the goals and helps building a common language among the stakeholders. This also helps in timely identifying the problems and modifying the strategies.

As for other types of projects, appropriate tools should be leveraged to support project planning/monitoring/accounting and OER access and preservation (GANTT production and updating; deliverable verification and approval; human, financial and material resource allocation; e-learning platforms).

Service quality should not be overlooked in OER initiatives and should be planned since the early phases. In this case the concept of quality regards both contents and infrastructure performance. While the former can be increased mostly by establishing processes for quality control and by deploying tools supporting those processes, the latter is mainly achieved by defining (and complying to) service levels that can be easily monitored.
As for all the initiatives that manage digital contents, persistent identification of all the resources and adoption of standard digital preservation criteria help ensuring integrity, traceability and long term access to OERs.

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Faculty Perceptions of Grey Literature: A Qualitative Analysis of Faculty Interviews

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Abstract
To examine the use, field perception, citation practices, creation, methods for finding, and dissemination of grey literature, this study used interviews of faculty at a large R1 university. Further, interviewees were asked specifically about one type of grey literature - preprints - as well as about ways in which libraries could support their overall grey literature goals. The study findings included concerns about the challenges of finding known items and the unstable nature of web pages. Some less expected findings included the use of grey literature in undergraduate instruction as well as faculty creation of grey literature for lay audiences. In terms of implications for practice, librarians could use these findings to inform long term preservation practices as well as access to institutional repositories.

Introduction and Literature Review
Grey literature (GL) in its various forms is produced and utilized by researchers across the disciplines in the sciences, social sciences, and arts and humanities. In this study, which is a follow-up to an earlier survey that we conducted, we interviewed researchers as a way to gain a greater understanding of the attitudes toward the use and creation of GL in various fields of study (Cooper et al. 2019).

While GL is not an uncommon topic in the literature, studies about its use seldom take a broad look across many academic disciplines. Instead the focus is often on one field of study or one type of GL, or a combination of the two. For example, across the sciences, researchers have looked at how often papers from a particular conference result in a subsequent journal article (Fosbøl et al. 2012; McRoberts et al. 2014). Hanneke and Link interviewed public health researchers and found that many of them disseminate their findings in GL formats such as policy briefs and reports as well as through peer reviewed journal articles (Hanneke and Link 2019). They also discuss discoverability and preservation of GL, broad themes that other authors address in the library literature (Adams et al. 2016; Aloia and Naughton 2017; Mahood, Van Eerd, and Irvin 2014).

Works that consider GL across multiple disciplines are less common. In their studies of scholarly communication practices, Harley and co-authors include GL in their discussions when describing both the literature of various fields from physics to political science and how it is shared (Harley et al. 2007, 2010). GL is also covered in Nederhof's discussions of non-journal publications in political science, economics, and psychology (Nederhof, van Leeuwen, and van Raan 2010). Sulouff et al. interviewed liaison librarians in order to discover their knowledge and exposure to GL and also to gauge the requests for GL that they received (Sulouff et al. 2005). They used their findings to recommend actions about the acquisition of GL and how it might be included in their institutional repository (IR).

In a sister study to the one reported here, 172 faculty from 9 colleges at the University of Minnesota responded to a survey about their creation, use, and citation habits in regard to GL (Cooper et al. 2019). Overall, 78% responded that they created GL and 84% said that they used it. The types that they used varied a great deal, as did the methods that they employed to find GL.

Interest in GL has increased in recent years due in part to the growth of systematic reviews and other forms of evidence synthesis. In their guidelines, both the Cochrane Collaboration and the Campbell Collaboration mention the importance of GL in a comprehensive search (Campbell Collaboration 2019; Higgins and Green 2018). The rationale for including GL is that it may lessen the likelihood of publication bias.

Related to the topic of systematic reviews, discoverability and citations of GL are topics that have been addressed by both disciplinary researchers and librarians. Hartling et al. looked at a subset of Cochrane reviews covering topics related to the health of children and found that most tried to cover non-English papers and unpublished reports but searching for dissertations and theses (D&T) was less consistent (Hartling et al. 2017) (Hartling et al 2017). Enticott and colleagues report on a technique to locate GL for systematic reviews on refugees and asylum seekers and Berrang-Ford et al. addressed locating GL in their paper on techniques for systematic reviews on climate change adaptation (Berrang-Ford, Pearce, and Ford 2015; Enticott, Buck, and Shawyer 2018). Among librarians, Hunt and Bakker as well as Hanneke and Link discuss findability of GL in public health (Hanneke and Link 2019; Hunt and Bakker 2018). Saleh and colleagues conducted a survey to find out how much time systematic review authors spent searching for GL and what sources they utilized (Saleh, Ratajeski, and Bertolet 2014). They found that the amount of time spent was related to whether the project was grant funded and that the number of sources searched varied by the type of institution where the authors worked and whether or not they had received training in conducting systematic reviews.

Methods

This is a qualitative analysis of interviews examining faculty experiences with finding, using, citing, and creating GL, as well as potential disciplinary differences in interactions with GL. For the purposes of this study, GL is defined as works not published by commercial publishers such as conference papers and posters, working papers, technical reports, early versions of articles submitted for publication, theses and dissertations, and government documents. This was done as part of a mixed method study that also included quantitative survey results which can be found in a previous publication (Cooper et al. 2019).

Participants

The participant pool for the study was selected based on faculty status as tenure or tenure track at a large R1 institution and was the only selection criteria used. Those who were interviewed had taken part in a survey about GL and indicated they were willing to be contacted in the future to participate in interviews. We contacted everyone in this group, except for one emeritus professor and two researchers who were located off-campus. The original survey pool was developed by the institution's Survey Advisory Team and included 1008 tenured faculty and 292 tenure track faculty. The survey was distributed via email and was conducted from April to May 2018.

After the survey was closed participants who had indicated they were willing to take part in interviews were contacted to set up a time. Participants who agreed to be interviewed included three Health Sciences faculty, five Food, Agricultural and Natural Resource Sciences faculty, two Liberal Arts faculty, and one faculty member each from Biological Sciences, Human Development, Policy & Development, and Design.

Research instruments

The interview instrument consisted of an in-depth semi-structured interview guide. Interview questions and communications were developed by the research team and were not based on or modified from previous studies (see Appendix A). Interviews were conducted between August and October of 2018 and took place in faculty members' offices, or another location of their choice. Interviews were conducted by two members of the research team, with one acting as primary interviewer and the other as note-taker. The interviews were recorded and then transcribed for analysis by audiotranscription.org.

Data analysis

For analysis two authors (WM and AS) used line-by-line open coding based on each interview transcript. Using pre-established question codes to begin analysis, the authors further identified themes while dissecting the transcripts to establish more comprehensive codes. This led to the development of a codebook (see Appendix B) which was later used to analyze transcripts in Atlas.ti v. 8. Question codes and theme codes were used to examine both occurrence and co-occurrence of themes and were used to layout the framework of this paper. Use of investigator triangulation, or analysis by multiple individuals, allowed for a richer and deeper interpretation due to a broader range of experience, increasing the strength of our result (Patton 2002).

Findings

Use

When asked about how they use GL, participants indicated that they used it in many different ways. Multiple participants used GL in their instruction, particularly with undergraduate students. Government documents were discussed as an example of this. Reasons included that GL is often written for a general audience, is more often open to the public than scholarly work, and is therefore more accessible. One person noted:

> *I would say a second thing that I'm using grey literature for is actually in teaching because most books and journal articles, at least in my field, aren't written with undergraduates in mind. But sometimes these non-governmental organizations (NGO) reports, which are written for a broader audience, cover the same material but at a much more accessible level*

Keeping up with trends in their disciplines was another reason that participants used GL as it can often contain information not included in published scholarly literature. As one participant noted:

> *A lot of times just because I get some feedback or some information from someone in the field and I want to know more about it. For example, the other day, we had a meeting with swine producers and they said, "Oh our main issue now is anal prolapse." And I was like, "I've never heard of anal prolapse in a swine." And then you go and search the formal literature and there are not a lot of reports. But you go and search the grey literature and then you get it.*

Closely tied to keeping up with trends in the field, publication delay was another reason for using GL. The time delay found in many scholarly publishing venues can mean that the most current work in a particular field is not found in journal articles. Blogs were one example of grey alternatives used in this manner.

> *Why do I choose them? Because the publication lags in economics are really dramatic sometimes, and so that's how you access the most recent work, usually. Meaning, anything that's actually been done in, at least, the last two years.*

Dissertations and theses are useful when participants are looking to discover more detailed methodology of previous research as they often include more detail than a journal article. Instances of the academic literature not providing the information participants need to do their work, while GL does, was another motivation for using GL. Systematic reviews and other evidence synthesis methodologies were mentioned by interviewees in the context of needing to use GL in their reviews to address comprehensiveness. Finally, NGO reports and government documents such as technical reports, population surveys, and government research lab reports were mentioned by multiple participants.

Field perception

The authors were interested in learning if researchers had similar feelings about GL according to their field of study or discipline or if it varied from person to person. Those who thought they were like their colleagues, commented positively about both creating GL and citing it. Along the same lines, a researcher felt that it was their college's duty to produce GL because of the university's land grant mission:

> *I feel it's really important to have grey literature production [in my college]. It is part of our mission; my personal view. I don't think it is but, I think it should be.*

Another researcher initially had difficulty getting on board with citing GL as they had transitioned from a discipline that was far more critical of GL than their current discipline.

> *The first time that it was really obvious to me was when we were writing our first paper in collaboration and I found some references in there that I was like, "You cannot cite this." And he was, "Of course, you can." And I was like, "No, you cannot." And it took me a while, going back and forth with the other faculty author to figure out whether it was yes or no. And then I learned, "Oh it's not a problem." That's how I learned about it. It's just a completely different environment.*

Multiple reasons arose for why researchers thought they may be outliers regarding creating and citing GL, but the most common reason was due to the rigor of the tenure process. Spending time to create GL while working towards tenure was not considered a good use of time:

> *Don't get me wrong. I mean this is what I do. This is the stuff I do. But I wouldn't recommend junior faculty members doing this.*

One researcher noted that the only kind of GL that would be viewed positively in their discipline and would count toward tenure would be publishing datasets.

> *If you're publishing lots of grey literature, it doesn't count unless it's making a dataset available as a resource. That is something that would count. But in terms of tenure discussions, that would be viewed positively but is not as a substitute for peer-reviewed publication.*

Citation guidelines

When researchers were asked if they were aware of citation guidelines regarding GL in journals in their disciplines, responses varied. Some researchers said that yes, there are guidelines and they know what they are supposed to do. A couple of researchers stated how they just use guidance provided by American Psychological Association (APA). Other researchers discussed how although there may not be discrete guidelines, they just cite to the best of their ability and have never experienced pushback. Another person talked about the rigorous and transparent guidelines they encountered when working on the Intergovernmental Panel on Climate Change (IPCC) report.

> *The IPCC, which is seen as probably the most credible UN-sanctioned report on climate, have very extensive guidelines about grey literature. It actually became super interesting because basically, it became politicized in the sense that there was a strong sense by a lot of participants from developing countries that their research was only in grey literature and it became this political issue where one of the developing country authors really wanted more grey literature [included] so that their country's work could be represented.*

Still others described how there are informal guidelines about not being able to cite it. One researcher lamented the informal standards.

> *I wish they were public. I wish there was debate about them. I think if there was debate and discussion, we might be able to come to some new understanding and agreement on how to use different kinds of literature.*

Many people talked about how it varies in their discipline; some journals have guidelines, others do not. One interviewee referred to their field as "the Wild West" when it comes to citing GL. However, other journals explicitly do not allow GL, such as PLOS One or the American Physiological Society journals.

Despite guidelines or the lack thereof, several researchers talked about how they always prefer to use peer-reviewed sources, or sources that were published in a traditional manner, as opposed to GL.

Citation practices

When researchers were asked if they were citing GL, most interviewees stated that they were citing. However, when expanding the conversation around their citation practices, they mostly talked about disciplinary expectations (why they are or are not citing GL, and how to properly cite) and issues they encounter with citing GL. Some researchers discussed how their field negatively perceives certain kinds of GL or believes there is an issue with credibility. Another person talked about how they go to the GL to read and learn about a topic, but then search for peer-reviewed articles to cite instead. Others did not see a problem with credibility of GL, discussing how it is important to be comprehensive, especially in relation to a "systematic review or meta-analysis".

> *If it's relevant, it can and should be cited. It's not as if it's grey literature, it's not "as good". I think most researchers in my area, which is a fairly applied one, don't necessarily look down upon literature if it's not peer-reviewed, particularly if it's from a noteworthy or respected organization.*

Of those who cite GL, several mentioned the issues with web stability and availability. Because of lags in the publication process, URLs may change or disappear.

> *By the time we were in the copy editing stage, we had ten citations that we had cited, and two years later, they were gone.*

Methods for finding

The interviewees mentioned a wide variety of methods for locating GL. The most common practices, each mentioned by more than half of the researchers, were searching Google Scholar, receiving recommendations from colleagues or professional networks, and searching a resource supplied or recommended by the library. Other avenues for locating GL that were mentioned by multiple people were checking the works cited in publications and monitoring listservs and particular websites. Regarding backward citation tracking, one respondent stated:

> *Usually the best way to track down grey literature is by hand searching and searching reference sections, etc. That usually gives us a better picture of some of the grey literature that's out there in terms of conference abstracts, reports, etc.*

Researchers also noted tracking blogs and social media including Twitter and Facebook. Everyone that was interviewed mentioned using more than one method to find GL.

Some methods involve the researcher taking action such as initiating a Google Scholar search or visiting a Web site while others deliver the information to the person without requiring any action such as receiving an e-mail message from a listserv or a colleague. Several people noted that part of what drove their particular methods for locating GL was an interest in finding reliable information.

Although we did not directly ask why they used GL, during the discussions about how to find it several people volunteered that they did it to keep up with the latest trends.

> *[There] are actually good [grey literature sources that cover] trends or new phenomena that are happening... the main areas that I'm looking at are emerging practices, future practices, future business practices.*

As for finding GL for the purposes of evidence synthesis, interviewees mentioned searching indexes to which their library subscribed and using backward citation tracking.

The question we asked was about finding out about the existence of GL items and not locating the full text but a few interviewees talked about the problems about actually obtaining the items. Comments noted broken URLs, documents that had disappeared from Web sites, and papers that were behind paywalls. They also mentioned that while interlibrary loan was a valuable service, sometimes they were not able to obtain GL items using that method.

Types created

Nearly all researchers reported creating at least one type of GL that fit a typical definition such as conference papers, working papers, and reports. In addition, they mentioned other outlets for their work including blogs and social media sites, teaching materials, and Web-based resources, some of which were interactive.

> *I write a couple times a year for a blog. That's a great tool...it's basically a collection of case studies that people are doing on the ground. They're not replicated studies. And there's some data in there.*

Another notable topic that surfaced more than once was the number of reports that are generated by researchers and the fate of those reports. These reports may be created based on collaborations with industry partners or as part of a requirement from a grant or through work with a local or federal government agency.

> *A lot of the work I've been doing lately has been funded by state agencies and these require reports... And then typically, what happens is they get buried. They might get put on a website.*

Across the disciplines a number of interviewees talked about the amount of GL that they produce for non-academic audiences. The products included policy briefs, fact sheets, Extension documents, and magazine articles. They may emanate from their academic department, college or the University as well as their professional associations or a government agency with which they are collaborating.

Sharing preprints

Interviewees were asked about their experience (if any) with disseminating preprints, and the majority answered in one of two ways: Yes, they are actively disseminating preprints; or No, they are not active in disseminating preprints. One interviewee described how whether or not they disseminated preprints depends on the situation, while another had some misconceptions about the definition of preprints.

The majority of interviewees stated that they share preprints and were doing so in order to solicit feedback. Interviewees either deposited manuscripts in a repository or directly with colleagues. The action of sharing preprints was driven by responding to peer review publication delays and ensuring an open access version was available. One person discussed how they believed it was important to get their work out quickly but that others in their discipline disagreed:

> *We have a public mission and should be getting information out as quick as possible. But some of my colleagues are very anti that, even in this department...I think that this is terrible and don't understand why anyone would do this. I think it's terrible to withhold [your work] until a peer-review publication.*

Of those who stated that they did not share preprints, there were some fears by individuals about scooping.

> *The PI where I was doing my post-doc would never allow us to preprint. She would not even allow you to do electronic posters or things like that because she was competing with two other labs. So she would give the information in the abstract but didn't want to show her whole hand.*

One interviewee expressed faith in the peer review system and therefore was reluctant to share research that had not been vetted via peer review.

> *I think reviewers just add so much because they really see what you don't see. So it improves the science to have a review process. I really value it a lot.*

Distribution/dissemination

When asked about dissemination of GL the participants discussed many different methods both in their personal practice and that they had observed others practicing. The most popular method was through personal or lab/center websites. One participant noted:

> *We just redid our website for my research group. So that becomes more of a platform that we can use.*

Industry or society websites were mentioned as well, but not as often as personal websites. One participant commented on the amount of broken links that have occurred through one industry site they have used in contrast to their personal site.

> *[redacted] redesigns their website all the time and so the link just constantly is broken and moved. And then I'll say, "You know people are telling me it's broken. They're asking me." So I'll set it up again and I'll try to link it again. They've done about five reports with me now and I just link on my website.*

Other methods were discussed by multiple participants. Research networks such as Researchgate.net and Academia.edu were mentioned, with one individual commenting on their usefulness in disseminating conference materials. Other methods included blogs, social media such as twitter, and repositories both institutional and subject specific. Additional dissemination methods discussed by one or two participants included physical items such as thumb drives,

infographics, listservs, discussion boards, providing their work to individuals upon request, and producing government documents.

When asked who the intended primary audience was, the most common response was to those in industry.

> *Primarily it's the people in the field. So it's the architects, contractors, owners, subcontractors that are trying to adopt these new practices or these new technologies and they don't know how to do it.*

Colleagues were another group that participants frequently shared GL with, especially those who had expressed interest in the participant's work. The final audience type mentioned by several participants was that of landowners.

Library support

Many participants mentioned how they used library resources to find GL. Some elaborated on how the library supported or could support finding GL, use, access, citation, and creation. Others participants discussed how access to IRs provided a venue for hosting and finding content.
One researcher mentioned that their lab recently began depositing datasets into an IR to help with citing standalone data, following grant obligations, and disseminating their work for others to access.

Another interviewee who had not previously deposited work in our IR, but was considering it mentioned,

> *That has been something in the back of my mind. And we may be doing that ... as a team in the next year or two.*

Three participants mentioned the Libraries provided Interlibrary Loan (ILL) services when they were unable to find locally owned resources. Some expressed a positive experience with library provided ILL. One respondent sought conference proceedings and had more ease obtaining documents produced in the U.S. as opposed to internationally born documents.

> *There have been some examples of conference proceedings where something looks really interesting so I'll go to interlibrary loan and try to get it and it's just impossible to find. But that, as I said, is the exception for the most part.... [T]he library is pretty good at finding some way to get documents especially if it's from the U.S.*

For a respondent who conducted a comprehensive literature search for the purposes of a meta-analysis, there were challenges obtaining the full text of older documents:

> *Older governmental reports can be harder to track down. For a recent meta-analysis, we had multiple reports that were published in the late '70s/early '80s that we're including. Many of them are on microfiche. Sometimes, they're difficult to identify via interlibrary loan. So those can be challenging. And they're usually so old, 30-40 years old. You can't really contact the authors for them either.*

Only a few interviewees offered discrete ways in which the libraries could support them with their GL needs. Because the world wide web is somewhat unstable, a couple interviewees expressed the potential ability for the libraries to actively archive and perform data rescue. Due to confusion with how to cite GL, one interviewee recommended that the libraries provide guidance/ instruction/education (e.g., tutorials) specific to how to cite GL.

Discussion

In studying the comments made by interviewees, some were fairly predictable, given our knowledge as information professionals. At a basic level, people had varying definitions of what constituted GL and given that different disciplines make use of different types this was not surprising. Searching for GL is not a straightforward task and the wide variety of discovery methods that were reported seemed to reflect that. Although the respondents themselves did not articulate this, their methods often appeared to be time consuming, less than comprehensive, and in some cases rather haphazard. This is an area where guidance from library staff could help make the experience more successful by suggesting sources to search or advising on methods of searching GL

sites with poor or nonexistent indexing. Another aspect of GL that is familiar to librarians is its potential lack of permanence and that was also noted by a number of researchers across the disciplines. They mentioned finding broken links in the reference lists of papers and also being unable to find publications that they themselves had noted earlier.

Also not surprising is the confusion among some of the interviewees about whether various types of GL were allowed to be cited, particularly in the more prestigious journals in their fields. Some researchers assumed that it was not acceptable but few had checked. It seemed that they avoided citing GL just to be safe although they may have actually consulted it as they wrote their papers. This situation could be improved if journal publishers and editors included straightforward instructions in their author guidelines.

Currently the acceptance and prevalence of pre-prints varies among different disciplines and this was reflected in the responses we received, from little recognition of the concept to opinions both pro and con. There was much more convergence across subject areas on the idea of using GL to keep up to date and find out about new trends, partly because GL usually has a much shorter publication turn-around time than journal articles or books.

A few comments touched on areas not often considered by academic librarians and could potentially lead to improved service to users. One involved the large amount of GL that was produced with a lay audience in mind. A number of interviewees from disparate disciplines mentioned creating GL for lay audiences with related comments about how they got little credit for it in their current position or that it did not seem to be widely distributed or archived anywhere for later use. Several people noted that often these documents were part of either a cooperative project with industry partners or an outreach effort to practitioners in their field.

With GL produced for a lay audience there are obvious roles for libraries such as seeking out more of this material and including it in IRs. Another idea about using GL to create affordable content (as an alternative to expensive textbooks) arose from an interviewee's comment. They reported that they had initially created a report for an industry group and then later used it in one of their undergraduate classes because it provided a good introduction to a topic in understandable language. Other types of GL could be similarly repurposed for the use of delivering content in classes.

The comments about library support for GL indicate that there is room for improvement in library services in this area. Some ideas are mentioned above and others fall into the areas of outreach, collection development, and preservation. For outreach, a focus could be on assisting users in efficiently locating relevant materials. The importance of interlibrary loan services and the skills of their staff can also be promoted.

In the realm of collections, library staff can promote the IR as a place to both deposit and find GL as much of the GL lacks a stable home. Where appropriate librarians can include GL in their collection development policies. Comments about the need for GL produced by local governments such as planning documents reminded the authors that public libraries often have these materials in their collections while academic libraries do not. Developing a greater knowledge of community partner collections could be a benefit to library users.

The results of this study suggest several avenues for potential future research. One potential area of research would be to have further discussions with scholars of the disciplines that reported having fewer issues finding GL and the potential reasons. Is there a particular location that is collecting it? Are there particular terms that they are using in their searching that consistently returns relevant results? The answers to these questions could potentially help librarians deepen their own knowledge of disciplinary GL practices and discover resources to include in catalogs or libguides. Another logical next step to this study would be to survey producers of GL such as NGOs and industry producers of GL that scholars are using to determine if there would be benefits to developing stronger relationships between libraries and those producers. Librarians might be able to provide aid in increasing the findability of this GL, while the producers could expand librarians' awareness of the creation and location of information valuable to the research they support.

This study had a few limitations. As the majority of participants were full professors, the results do not reflect the views of the other faculty ranks as well as would have been preferred. Additionally,

the majority of respondents were those who do use or create GL in some way, so this study is unable to explore in any detail the motivations of those who do not use GL. Due to the sample size and study design, it is difficult to generalize by discipline. Finally, while this study took place at a large research institution, the fact that it reflects the views of scholars at a single institution means it would be difficult to generalize the results to larger populations.

Conclusions

While there were aspects of this study that were not surprising to the authors (varying definitions of GL in different disciplines, issues with locating it, and permanence once it had been found) there were surprises as well. These surprises included the amount of GL that is created with lay audiences in mind, which was greater than anticipated. Additionally the way that this material is utilized in undergraduate teaching was not expected. Librarians are well situated to partner with faculty in all these areas. They possess the expertise to help with locating existing GL for both research and instruction purposes. Another avenue for this partnership is in the long term preservation and access of GL created by their faculty and researchers through IRs. Future research by librarians into GL producers such as non-affiliated institutions and NGOs would shed light on potential partnerships to increase knowledge of and access to important GL. As shown by this study GL is a significant resource for the teaching and research of disciplines across the institution and is therefore an important resource for libraries and librarians to embrace.

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Open Access in the Academy: Developing a Library Program for Campus Engagement [*]

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Abstract

The Open Access (OA) movement continues to gain traction. The recent breakdown of negotiations between Elsevier and the University of California system has brought renewed attention to OA issues to academic faculty, students, librarians, administrators, and governance bodies. The library is a natural hub for OA activities within the academy, and librarians can serve as advocates, facilitators, and agents for OA. The OA movement began with a focus on journals, articles, and similar vehicles for dissemination of research. The movement has now advanced and evolved to include a wide range of formats, material types, and other material. These include monographs, audiovisual materials, monographs, research data, Open Education Resources (OER), and the many varieties of grey literature.

The library and its personnel have the expertise to serve as the central point for OA issues within academe. Librarians are knowledgeable about the issues surrounding OA, and usually have existing partnerships and lines of communication with the stakeholders necessary to support OA initiatives within their institutions. The academic library has a role in explaining OA issues, advocating for OA, and of course for supporting and managing OA resources, including institutional repositories, OA journal subscriptions, OER, open research data, and other OA materials such as grey literature.

This paper offers a model for the creation and implementation of an OA program within their own institutions. This model will identify the necessary elements for a successful OA program, as well as offer advice for identifying relevant existing resources. Elements of the model will include advocacy resources to make the case for OA; advice on developing and promoting programs and services to inform, support, and manage OA activities; and how to develop an effective communications plan that both reaches all stakeholders and offers them a space to make their voices heard. In addition, the model will also present its audience with a comprehensive set of OA resources to employ when planning and implementing a suite of OA programs and services.

Open Access in the Academy: Developing a Library Program for Campus Engagement

The Open Access (OA) movement continues to gain traction. The recent breakdown of negotiations between Elsevier and the University of California system has brought renewed attention to OA issues to academic faculty, students, librarians, administrators, and governance bodies. The library is a natural hub for OA activities within the academy, and librarians can serve as advocates, facilitators, and agents for OA. The OA movement began with a focus on journals, articles, and similar vehicles for dissemination of research. The movement has now advanced and evolved to include a wide range of formats, material types, and other material. These include monographs, audiovisual materials, monographs, research data, Open Education Resources (OER), and the many varieties of grey literature. Grey literature, one may argue, is the original "open access" genre, and may include information in any format or medium. Increasingly, grey literature includes social media, streaming audiovisual content, research data, and other important and useful scientific information.

Because of their mission to identify and provide access to information, libraries are natural hubs for OA advocacy. For this reason, many libraries are currently investigating how best to implement OA programs. When developing a program to promote and support OA, libraries should begin by identifying the elements of such a program, and how they can best employ resources to support these endeavors. Libraries can classify programmatic elements into a few main areas: advocacy and instruction about OA in general, consulting about OA issues, and facilitating OA activities.

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These areas require different levels of commitment and resources. At many institutions, personnel may already be involved in some or all of these activities. An inventory of existing OA functions could reveal that the primary need is systematic, programmatic, centralized organization and coordination.

The first area of activity, and the one that requires the most modest investment of resources, is instruction about, and advocacy for, OA in general. Libraries can develop and implement an educational program about OA targeted at institutional faculty, students, researchers, administrators, and librarians. At this level of engagement, libraries' primary investment would be the time of library personnel to educate themselves on OA issues, and then create an implement an action plan for implementing the program. Many free resources to support such a program exist on the Web (see below). The action plan at this stage could be as simple as creating an institutional web page with information about OA issues, including authors' rights, sources for OA funding, OA publications and distribution venues, and compliance with funders' OA requirements. Next steps in such a program could include training library personnel such as subject librarians who serve as liaisons to academic programs in OA issues so they can discuss and advocate as they meet with the departmental faculty and students they serve. Designing and delivering workshops about OA issues is another element at this programmatic level. These could even be targeted toward specific audiences such as authors, administrators, and researchers applying for grants.

For libraries seeking to participate in OA activities beyond mere advocacy and information sharing, the next step in creating an OA program is to engage in consulting. This requires additional commitment on the part of the library, including training personnel so they can offer consultation services for OA issues. Consultation can also cover a wide range of activities and can focus on the issues relevant to specific audiences. For example, the library could institute a program to provide consulting on issues such as authors' rights; identifying OA journals, repositories and other appropriate OA venues for publication; platforms for hosting OA content; and identifying funding sources to cover article processing charges (APC) and other OA fees. Subject specialist librarians often have the domain knowledge to some be familiar with at least some of the major OA publication venues for their disciplines, as well as subject-specific resources for APCs. An OA program could also include providing consultation services for data plans and other mandatory compliance issues. Most governmental and institutional agencies that provide funding for research now have requirements for curating data, making data and other information freely available, and other compliance requirements. The library may have personnel who already work in these areas and who could provide such consulting services to the faculty, students, and other researchers whom they serve. This paper offers a list of resources and examples useful for planning an OA consulting program below.

For libraries seeking a yet higher level of engagement with their constituencies in OA activities, the final step is facilitating OA initiatives. Moving beyond consultation and advice, in the facilitation stage the library becomes an active participant in OA activities in partnership with the constituencies it serves. This could include a wide range of collaborative activities. For example, some libraries support OA activities by providing APC funds to qualified authors. Many libraries also engage actively in developing and providing access to open educational resources (OERs). Library personnel may have the resources and expertise to move beyond consultation in the area of data curation and management, and can actively support curation, migration, discovery, and other support of research data. Likewise, the library may be able to develop data management plans, host OA repository, streaming media, or publishing platforms, and otherwise engage in active management of research assets with the scholars it serves.

There are, then, a wide variety of ways in which the library can support OA activities among the communities it serves. These can range from advocacy through consultation to active participation in OA endeavors. In many cases, the library may be done some or all of these undertakings already. It is important, therefore, that the institution make an inventory of existing programs and services relevant to OA, identify personnel with the expertise to engage with users in OA activities, determine the resources it has available to dedicate to OA support, and create a programmatic

approach to OA initiatives. Effective planning to create and implement an OA program requires that the library identify relevant stakeholders, resources, and services.

It is perhaps most effective to start planning an OA program by identifying the pertinent stakeholders. These stakeholders fall into various categories, including the users and creators of OA content supported by the library, as well as the library personnel who will participate in the program either through direct involvement or through behind-the-scenes support. The primary stakeholders are the users and creators of research content who would be the primary audience for the library's OA programs and operations. Content creators and users might include students, faculty, other researchers, and library personnel who are actively engaged in research and content creation. Library stakeholders might include subject specialists and other librarians whose primary assignments already include engagement and outreach. This stakeholder group would be involved in content creation, advocacy and communication, and training about OA issues. Other library stakeholders include technical personnel who might be necessary to support specific types of work such as hosting streaming media, curating and migrating data, creating and serving digital assets used in the development of OERs, and similar technical activities. One final category of stakeholder comprises the administrators, managers, legal, and policy consultants who are responsible for institutional compliance. This group of stakeholders should include the supervisors of personnel involved in OA activities, the administrators who are responsible for identifying funding and allocating resources to support operations and programs, and legal counsel to ensure compliance with institutional, local, national, and international legal and policy requirements. Since any new program should also include an assessment component, planning for OA should include identifying the personnel who will develop effective assessment and evaluation tools.

In the next step of designing an OA program, the library must undertake a serious, accurate, and thoughtful inventory of resources at its disposal, and determine what resources it can commit to the OA initiative. These include not only the fiscal and personnel resources necessary to create and implement an effective program, but also the technology and facilities required for success. Fiscal resources include not only direct costs such as APC funds and development of promotional material, but also indirect costs such as personnel salaries and benefits. Human resources include personnel involved in the program, not forgetting the importance of identifying a project manager, coordinator or point person. Other personnel resources include technical, administrative and legal counsel support. The category of technology and facilities include both existing resources as well as any that the library may wish and can afford to develop. Resources in this area include institutional repositories; journal, monograph, or media platforms; laboratories for the creation, management, and curation of research data and other digital assets; and spaces for consultation and advising. This is the most flexible area of program development, and the one in which the library will find itself most restrained by its existing needs and resources.

Once the library has identified stakeholders and resources, it can turn its attention to creating the actual OA program. In this stage, the library will develop the OA services that it plans to offer is users. As discussed earlier, these services can be tailored to the individual institution's needs and level of commitment. Advocacy and promotion of OA initiatives can be an efficient way to get started in OA programming. This can lead to more engaged consulting about OA activities. Consultation can take many forms, including advising students and faculty about how to search for OA content in institutional and disciplinary repositories and OA journals as well as how to identify appropriate OA publication venues for disseminating research. An OA consultation program can also include instruction about grant agencies' research data policies and authors' rights issues. One effective and relatively easy way to step into OA programming is to develop an institutional OA web page, with content about and links to relevant information, including whom to contact for more assistance.

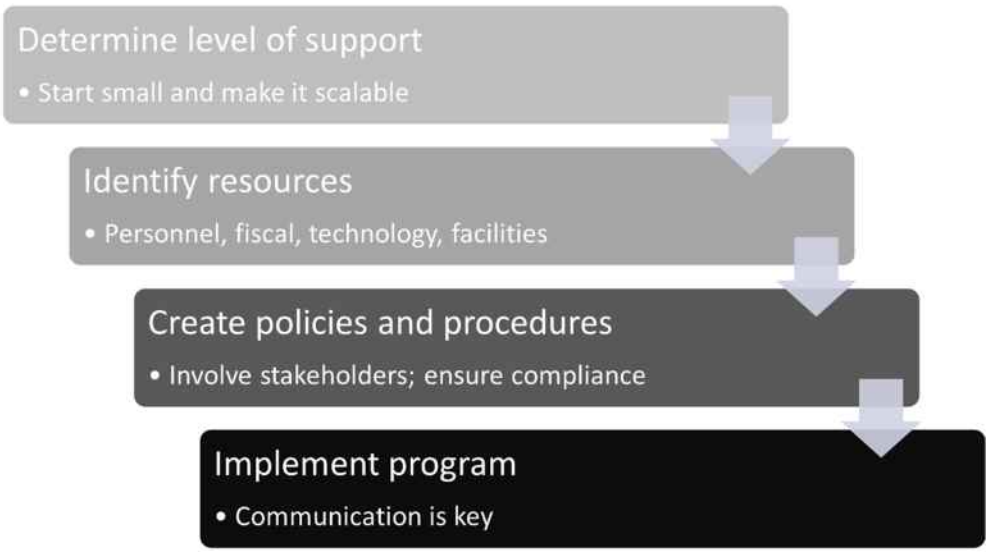
For libraries with the resources to do more in support of OA, the next step in program development is active facilitation and participation in OA initiatives. At this stage, the library is limited primarily by the resources that it is able to commit to the OA program. Dependent on sufficient funding,

personnel with the necessary skill sets, and the required technology and facilities, the program could include activities such as creating and maintaining repositories, journal, monograph, and media platforms; offering APC funds to qualified authors; managing and curating research data; developing OERs and other digital assets; and designing and delivering workshops and presentations about OA issues. This stage requires both the heaviest investment as well as the strongest commitment on behalf of the library.

As with any successful program, a new OA initiative should include resources for addressing the necessary legal, ethical, and policy issues. This might include developing a formal institutional OA policy such as that authored by the University of California system (see below for link). These issues include authors' and researchers' rights; proper handling of Health Insurance Portability and Accountability Act (HIPAA), Family Educational Rights and Privacy Act (FERPA), and other personally identifiable information (PII); library or larger organizational retention schedules for archival material and data retention; copyright and fair use; and issues surrounding academic integrity and plagiarism. Compliance with ethical, legal, and policy requirements varies greatly between organizations, and is highly dependent on institutional policies, local and national law, international standards, and a range of ethical considerations. Consultation with legal counsel, administrators, and other policy makers is a necessity.

Creating a model for OA engagement, then, has a set of clear steps. First, the library should determine its level of support for OA activities. Support should be both sustainable and scalable. Institutions can start small, with advocacy and promotion activities, and expand these to facilitation and participation in the future, depending on need, demand, and availability of resources. The next step lies in identifying all resources, personnel, funds, technology, and facilities, that the library can commit to the program. An important part of this step is identifying activities, programs, and services that already exist, and coordinating these as part of the new program. The third step consists of creating policies and procedures to govern operation of the OA program. During this step, the library should consult with all stakeholders and ensure compliance with all relevant laws and regulations. The final step is implementation of the OA program. In this step, especially, communication is key. The library should make use of any relevant communication venues at its disposal, including websites, publications, and social media. Gaining support beyond the library is vital for both communication and engagement. Buy-in from institutional administration and governance bodies at all levels is vital. OA resolutions from groups such as faculty senates and student government can both demonstrate commitment and also educate others about OA issues.

Model for OA program development



When planning and implementing an OA program, a few key points are worth repeating:

- Make it scalable and extensible.
- Start small, gain buy-in, and expand with demand.
- Use existing resources: web pages, YouTube channels, social media, legal/policy templates
- Get buy-in from all stakeholders.

Selected resources

SPARC: https://sparcopen.org . Start here! Lots of information and resources for OA, copyright, and authors' rights including template agreements.

Directory of OA funds: http://oad.simmons.edu/oadwiki/OA_publication_funds . Searchable database of funding opportunities.

OA fund @ UMD: https://www.lib.umd.edu/oa/openaccessfund . The University of Maryland's program offering APC funds to institutional authors. (Hint: double your funding by requiring matching funds from authors' home departments).

Creating Data Management Plans @ UMD: https://www.lib.umd.edu/data/dmp . A model for creating a data management plan for compliance with grantor mandates.

DRUM @UMD: https://drum.lib.umd.edu . The University of Maryland's institutional repository.

Directory of Open Access Journals: https://doaj.org. An excellent source for identifying OA journals for both authors and researchers.

Directory of Open Access Books: https://www.doabooks.org. One of the few resources for identifying OA monographs online.

MIT Framework for Publisher Contracts: https://libraries.mit.edu/scholarly/publishing/framework/ . MIT Libraries' policy regarding conditions for licensing content from publishers; includes OA components.

Plan S: https://www.coalition-s.org . Science Europe's OA initiative.

PLOS ONE List of Data Repositories: http://journals.plos.org/plosone/s/data-availability#loc-recommended-repositories. Large list of repositories for research data.

Registry of OA Repositories: http://roar.eprints.org. Searchable database of institutional and disciplinary repositories.

University of California system policy on OA: https://osc.universityofcalifornia.edu/open-access-at-uc/open-access-policy/ is an excellent example of an institutional policy.

Hidden Grey Heritage of Science and Research from Pre Internet Era*

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Abstract
Our presentation addresses in detail challenges concerning the availability of Czech grey literature documents from pre-internet time. Such documents form the grey heritage of science and research. Their importance is not widely accepted and they are often seen as outdated and as such, they are at risk of being discarded. The situation is usually worsened by the low quality of the metadata accompanying those documents. Due to the obsolete or not existing metadata documents often fall out of modern shared library systems and their availability further deteriorates.

Their value is described as both historical and practical with examples given. Special focus is put on describing the situation in small institutions and the state of their collections. Systematically Czech book production is collected by national institutions as The National Library and The National Archives. National legal deposit is well set by the library act (1995). But as is obvious, this doesn't concern grey literature.

Detailed observations of the situation of small specific specialized library with complicated and long time span institution history (1918-) lead to the widespread sources of uncovered grey literature discovered. Library collection evidence gaps are described including its reasons and range. The situation is documented and concrete examples are provided. Undertaken short interviews with other institutions of similar kind document general thesis.

Using documentary analysis some solution concepts are proposed. They comprise identifying not well documented sets of grey literature and their indexing as sets into already running complex solutions as National Repository of Grey Literature. The communication and proactive approach of national level institutions would be a key. The main aim is to increase the basic visibility and thus possibility of higher quality processing of this hidden literature with reasonable investments.

Dr. Savić in his article „Are We Ready for the Future? Impact of Artificial Intelligence on Grey Literature Management" presents challenges GL managers could face in the near future. In steep contrast the challenges of unresolved past are presented. Whole article is based on the experience of practical librarians and real situations. We cannot productively look forward without also looking back. And there is a lot of paper left behind.

What do we expect of today's library? In general, one assumes that all documents will be accessible via an automated library system. An online catalogue ought to contain entries structured in accordance with the functional requirements of bibliographic data records (the FRBR model), processed according to MARC21 - the latest version of the international Format for Bibliographic Data – indexed and shared with the Union Catalogue of the Czech Republic[1], the World Cat catalogue, internet meta-searchers and other advanced internet services. We expect that the meta-data is subtly granulated, reflecting the structure of a selected methodology or an analysis. The data allows us to search, borrow, share, make inventories and select documents for their digitalization. At conferences, such as the present one, we seek improvements and further advancements. We aim for the future – the future of library science, which implies future work with grey literature.

Unfortunately, the reality of this work often differs from theory. In this paper, we will step outside the boundaries of theory as reflected in regulations, rules, and standards. Instead, we will enter the obscure world of thus-far unrecorded paper collections and unfinished library work.

We may ask why it is that more papers containing better data on the current, real-life situation are not being presented. The fact that there is a strict division of work between our researchers and staff librarians may be one of the reasons. The two groups are paid to perform different tasks.

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Research librarians reside at universities, having the financial incentive to write professional research papers and develop advanced technologies. Staff librarians, who work and run libraries, are paid for their mechanical, repetitive work, thus lacking financial and other incentives to write papers that would bring their situation to light. Writing a paper of this kind might, moreover, imply that they engage in painful description of their own mistakes and shortcomings.

There Are Vast Differences in the Condition of Czech Libraries.

Our conversation with our fellow librarians has revealed that the vast majority of libraries have at best made partial progress toward future. Each library seems to be stuck at a different point of development. There are the university department library collections with typewritten registers, whose bibliographic data records consist of a single line of text per book unit. There are the library collections administered in Excel program. Other libraries present scanned paper registers without the OCR. There are the libraries that do have online catalogues, but the format of their records is outdated. There are the libraries that are the only remaining users and administrators of their software. There are the libraries with outdated communication protocols so that downloading and sharing of their records is impossible. Last but not least, there are those libraries whose collections remain to a large degree unprocessed, taking ages to decide whether the collection units ought to be registered at all. An anecdote to top off my list: I have seen a staff librarian getting upset with what she termed „lacking education in the young generation" because they had no idea of how to use a paper card catalogue!

Naturally, there are libraries that serve as examples of good practices, with up-to-date, largely used software and completely and thoroughly processed collections, such as the Economy Library of the Centre for Economic Research and Graduate Education, funded partially by the USAID foundation. Secure financing; short history and regular withdrawing of outdated units seem to be the key for success. Regretfully, it may be impossible to complete our statistics on the overall state of library technology; however, it is obvious that many libraries find it difficult to keep up with the current pace of technology updates.

The Condition of Our Own Library is Also Vastly Varied.

Our Surveying Library dates back to the Austro-Hungarian Empire. Since then, the collection has been passed on from one state Surveying Institution to another, as they were being consequently founded and abolished. Specialized literature items were hardly ever withdrawn from stock, and so the library features a fairly concise archival collection. However, we have also suffered a large number of evidencing errors. The remodelling of the library premises was a major success. Unfortunately, the metal cases that used to host paper card catalogues were destroyed during the remodelling. Those were the only complete catalogues whose data is now irretrievably lost. Transition to the Invenio 1.1.[2] system of Open Source Library, which may also be used as a repository, was a great success. Unfortunately, some data was lost during the file transfer from the outdated, proprietary Tinlib[3] automated library system to that of Invenio. In the five years that followed, Invenio underwent a series of rapid and important updates that we failed to download, and so our version of the program is neither being updated nor maintained. To a large degree, our records vary in quality. Connecting our catalogue to the Union Catalogue of the Czech Republic via the OAI-PMH communication protocol has been our latest great achievement. However, we were only able to transfer ten of the new bibliographic data records that were prepared for that purpose. A decision has yet to be made on whether to register about a thousand books that are still sitting on the shelves. Several years ago, the library narrowly escaped its closure[4] and was then successfully modernized. Our catalogue has been placed online; electronic information sources, such as Web of Science, and Scopus, have been made available, while a small portion of the collection has been digitalized.

How does the above-mentioned, historically underpinned present situation affect the collection, the conditions of its processing, and its visibility? Instead of focusing on the collection, we are constantly updating our software and metadata formats. The fast rate in which the technologies become outdated exhausts our workforce and financial resources. We are still behind on our

updates, in spite of the fact that they are our priority, while unperformed updates continue affecting the visibility of our data. Cataloguing of insufficiently processed collection, that is, generating new data, has been paused; there are no funds to do so. Grey literature is among the most affected, for the following reasons:

- Data and record-sharing cannot be used.
- The argument of broader usage cannot be utilized for quality data-processing.
- The value of early-dated grey literature is being questioned.
- Funds are distributed to areas other than those of re-processing and new processing of catalogue entries.

For the above reasons, the situation is much worse than that of your commonplace book market production, with its obligatory legal deposits and catalogue entry-sharing technologies.

What Kind of Grey Literature Is Available From a Specialized Library?

Research and technical reports, dissertations and theses, and unpublished government papers, traditionally listed as examples of grey literature[5], may no longer suffice, since the concept of grey literature keeps evolving. There is a tendency to broaden the definition of grey literature by including new, primarily electronic sources of information. In her paper, titled „Are We Ready for the Future? Impact of Artificial Intelligence on the Grey Literature Management"[6], presented by Dobrica Savić at the Prague Conference on Grey Literature and Repositories in 2018, the author addresses some of the future challenges. Savić provides an impressive list of „grey data" that is generated outside the usual channels. Given that there is data generated by IoT (the Internet of Objects), computer communication (M2M), self-driving cars, robots, sensors, cameras and other systems and AI applications, the author argues that identifying grey literature, and defining the role of classical grey literature management, proves to be a challenge.

In spite of being the only Special library in our field in the Czech Republic, the above-mentioned geodata seems beyond our reach; moreover, we are neither equipped nor ready for its processing. Most data is unavailable to us because of the copyright laws; processing and storing happens exclusively within each respective field where the data has originated. In the field of Surveying and Cartography (the subject field of our library), there is an immense quantity of geodata, i.e.; data with spatial components, such as data generated by satellites, drones and mobile equipment with GPS. There is also the state-generated data concerning land cadastres. Furthermore, even though a research institution such as ours may run projects and receive grants, the data usually belongs to those who have commissioned the research, be it a governmental science and research agency, or a private company. However, it is logical and commendable that specialized organizations create specialized databases, ideally collaborating internationally, such as the ICA[7].

Sweeping attempts at broadening the scope of library activities make it seem as though we were looking for a new job, since all other work has been done. In fact, we are seeking to establish our new roles, while failing to fulfil our old ones. We are seeking elsewhere, looking toward future, without first checking in our own backyard. Let us pause now, and look back.

While the above-mentioned data is inaccessible to us, our library is an exclusive owner of data that is accessible; and yet, the data has not been adequately processed. Our library stores a large quantity of classic grey literature, the most prevalent being the history of the institutions in our field of specialization, and the history of our field of research and its interaction with the state. Out-of-date technical norms and specialized regulations are particularly on demand, yet difficult to access. These documents are important for both legal and practical reasons. For now, the data may be made accessible through laborious effort; but thus far, the data has not been adequately processed.

How many specialized libraries of the Czech Republic are finding themselves in a situation comparable to ours, then? Roughly speaking, according to the 2017 statistics[8], there are 114 healthcare institution libraries, 65 university libraries, 58 Academy of Sciences libraries, and 235 museum and gallery libraries. Of particular interest is the situation of the Charles University and the Academy of Sciences. Both institutions have highly modernized central library hubs with

coordination and education centres that secure the running of the in-house library and electronic systems. However, for historical and practical reasons, the physical collection is dispersed into individual sites in many different buildings. For example, the physical library collection of the Department of the Far East is stored in classrooms; book-lending is done by a secretary after an order has been placed in the online catalogue.

In the 1990s, the number of librarians and library acquisitions dropped because of lack of funding. During last year's conference on connecting small libraries with the Union Catalogue [9], I joined a discussion panel on small libraries. What I learned was that today, a small scientific library typically employs a part-time employee, who is usually a professional of the field in which the library is specialized, but lacks expertise in the field of library studies. In the 1980s, our library had eight full-time employees; today, there is one, part-time librarian. Therefore, care of the collection and its processing are often neglected because there are other, more pressing issues.

Why is it, then, that there are unprocessed documents in libraries? Evidence of malpractice from other institutions may not be provided here because of their fear of negative publicity. Therefore, the majority of individual cases refer to our own practices. Examples from other libraries that are presented here have been gathered from contributions to public conferences. However, far from being the main subject, the conference examples came in the form of footer notes and small complaints.

This paper also evidences the kinds of documents that have not been processed, providing concrete examples and the reasons why they have not been catalogued.

Picture 1. Unprocessed books

Gifts And Other, Unexpected Contributions. Accepting an Entire Collection and What May or May not Happen.

Naturally, it is great that these kinds of documents make it to a library. Unfortunately, if they are accepted by a small library, as is often the case, they are stored on a shelf for future processing, where they may remain for many years. Full-time employees are not available to process a large quantity of documents that may have arrived all at once. The situation is made worse by the fact that prior to accepting an older document, we need to check in the catalogue to see whether the same document is already in stock – which is difficult, given that we know our catalogue is incomplete.

In our institute, there is a great tradition of donating boxes of dated documents – instead of trashing them – when the employees are retiring, because they know that the documents will be gratefully accepted. Since the library is well-known to the professional community, we often receive calls from people who wish to donate a large number of specialized books. Just recently, we paid a visit - which turned out to be interesting and lively - to a ninety-year-old professor's home, from where the library, upon the professor's request, received a part of his collection of specialized books.

A private collection often represents a uniquely wholesome unit. The documents often feature personal notes and remarks, and there is the correspondence with other experts in the field. In general, libraries and educational institutions are well-aware of the importance of private collections. For example, there is the „Information Systems to Make Accessible Libraries of Leading Personalities as a Part of National Cultural Heritage" project that has been implemented by the Institute of Information Science and Librarianship of the Faculty of Philosophy of the Charles University of Prague, and funded by the Czech Ministry of Culture. The project was conducive to producing a web application, called „Libraries of Leading Czech Personalities"[10],that provides access to information about documents in the private collections of several outstanding Czech personalities (e.g.; Karel Čapek, Božena Němcová, Mikoláš Aleš, etc.)

Gifts also come in individually, often as a result of the lively international dialogue among institutions. Most recently, a delegation on an official library visit donated a beautifully printed, large-dimension (50 x 35 cm), three-part National Atlas of Korea. However, the atlas has been sitting on a table for over a year, since it is not compatible with the library collection. While writing this paper, I got the idea to call the Korean section of the Department of Far East Studies of the Charles University. A happy ending for this book.

Given that funding for new acquisitions is gravely restricted, the library obtains most of its new literature via the above-mentioned retrospective acquisitioning. Regrettably, decision-making concerning the placement of a large number of thus received literature in the collection takes a long time. In consequence, there are about 20 meters of shelved books and boxes marked with notes on post-its, such as „the gift of professor XY".

The historically underpinned incomplete processing is at fault here; a revision of the previously processed collection must first be performed, else there might be multiple copies of the same units. Naturally, the majority of the donations do not consist of recently published books. Even so, our specialized library collection may be made complete in the above-described manner within a certain timeframe, if only the processing did not take up so much time. The stream of incoming grey literature is alive and well; however, once in the library, it turns into a still marsh.

Accepting an Entire Library Collection from another Organization

State-owned and research organizations come to existence, live… and cease to exist. In best-case scenario, their collections have been transferred instead of being abolished. Picture 2. shows some of the institutions from which our library received their collections (from top to bottom, and left to right in the picture).

1. C.K. Czech Technical University in Prague. The Geodesy Library.
2. Central Archive of Land Cadastres: Zentralarchiv des Grundkatasters.
3. Landesvermessungsamt Böhmen und Mähren. Bücherei.
4. Triangulation Office of the Ministry of Finance of the Czech Republic.
5. Geoplan. Land Survey Cooperative, Ltd. Prague.
6. Geographical Institute of the Interior Ministry. Library.
7. State Administration of Land Surveying and Cadastre. Land Tax Cadastre Registry. Department of New Land Surveying.

Picture 2. Stamps of libraries transferred into our collection

However, new collections are often transferred with incomplete catalogues, while those catalogues that happen to be complete do not often comply with the current cataloguing regulations. The Union Catalogue has a set of quality standards, and so, understandably, low-quality entries are not accepted. For obvious reasons, the public mostly uses the Union Catalogue, whereby the visibility of dated, transferred documents is considerably restricted.

Thus far, the situation has not changed. This spring, we had a visit from a sister department of the largest technical university in the Czech Republic. Since the department was moving, we were asked whether we would accept books deposited in two rooms.[11] The books have not been

stocked; in fact, there is furniture that is nearly entirely blocking their access. Register entries are typewritten on paper sheets. Keep your fingers crossed!

Documents from a Large International Project: Are they Likely to Survive upon the Termination of the Project?

Project documents and other project related materials that are of interest in the VÚGTK (Research Institute of Geodesy, Topography and Cartography) library may also come in the form of comprehensive collections. The rules of certain projects stipulate that an individual collection be generated and retained. The ICRCM project is a good example of a collection of this kind.

The ICRCM was an international project. The International Centre on Recent Crustal Movements – an operational agency that collects and distributes data on recent movements gathered by geodetic methods - was founded by the resolution of the Plenary Assembly of the International Association of Geodesy that took place in Grenoble in 1975. From 1976 to 1995, the Centre was based at the VÚGTK. In 1995, toward the end of the year, sources such as map sheets, digital files and about 2500 books and periodicals were deposited at the ICRCM. In addition, the ICRCM Bulletin was published every six months.

Upon the termination of the projects, the documents were boxed up. The digital catalogue register disappeared when the proprietary software, created solely for that purpose, stopped working. This incident demonstrates the importance of project document cataloguing both during and after the project.

Life Cycle of an Institution and Its Library, Provided there is One.

Offices, archives and libraries have radically different sets of regulations, ~~because~~ each institution uses its own software and formats. For this reason, the degree of their interconnectedness is not great.

In our view, maintaining the historical perspective – and so, implicitly, caring for the grey heritage of science and research – it's our library mission. Documents that have not been traditionally deposited in libraries for organizational reasons represent unique sources of information about times long forgotten. Such documents exist in the Surveying Library of VÚGTK thanks to the Library's longstanding interconnectedness with State governmental institutions. In particular, these documents offer historical framework on the development of specialized institutions and governmental organizations. The VÚGTK used to be part of Czech Office of Surveying, Mapping and Cadastre (ČÚZK). The Library was located next door to the ČÚZK (ČÚGK back then) headquarters. Later, the two institutions separated; the VÚGTK became an independent research institution, moved elsewhere, and kept the Library.

Being then part of the Office, the Library would also acquire documents pertaining to the Document Management and Destruction Rules. Only much later did the Library join the network of public libraries, registered with the Ministry of Culture of the Czech Republic. What's interesting about the life cycle of official documents is that disregarding the Rules may have positive outcomes. Oftentimes, documents that ought to have been destroyed according to the Rules have been kept. And so, the Library has a collection of consecutive, uninterrupted chain of travel reports made by the Office. Because they were not destroyed as required by the Rules, these documents contribute to presenting historical perspectives on the times of their origin.

A collection of directives issued by the Office, which are no longer in effect, represent yet another, unexpectedly valuable set. When examining old maps, a directive helps explain their content - the what and why - and the exactness of the map marks. The outdated Office directives, which are difficult to find, are also important when it comes to determining land ownership rights.

Documents like these are often withdrawn from libraries because they are outdated. However, the VÚGTK Library did not do so for a long time. When it came to remodelling and collection revision, rather than perceiving the documents as outdated, the Library then saw the documents as historically valuable sources of information whose public access was difficult. The VÚGTK Library is one of the few libraries that make the documents publicly accessible.

Today's historians publish interesting work in our field, such as the „History of Nomenclature Commissions in the Territory of Today's Czech Republic"[12]. At present, this historical research is essentially contingent on the support of the Office which is, fortunately, forthcoming. Even so, access to the source materials of this work may be made easier in a simple and efficient way. The source materials of the above-mentioned work pertain to the Central Archive of Land Surveying and Cadastre (ÚAZK). Our Library participates at making them accessible over the internet. At the moment, we are preparing the script so that their files may be transcribed from a simple excel sheet to library formats. In this way, they documents will be made accessible via our catalogue.

Routine Withdrawing of Documents.

Making sure that the collection is being used and up-to-date is an important part of the librarians' work. Most libraries withdraw outdated and low-circulation documents simply to gain more room. With the exception of large libraries, building up archival collections is not a priority. The National Library is what everyone relies on for the Czech Archival Collection.

After the change of the regime, there was hardly any time to make sweeping withdrawals of outdated documents; the lists are showing that it is only now that regular withdrawing of documents from the socialism era is being regularly performed. Even so, it appears that lack of funding and workforce has wielded positive outcomes.

During the library remodelling and the moving of our collection, we spent a lot of time withdrawing some greatly overdue documents. For instance, I would be withdrawing information bulletins of communist ministries, and address books of the nineteen-eighties institutions. For Christmas, we used the books to built an object[13] (Picture 3), thinking that no-one would find the books interesting enough. However, following the rules, we offered the books to other libraries. In fact, the National Library and the National Archive showed great interest in taking over the documents, since they were completing their collections retrospectively. I was proven wrong.

Picture 3. Withdrawn books

This real-life example shows the difficulties in determining the value of your collection to another party, and that too quick a decision to trash the stock might prove counterproductive.

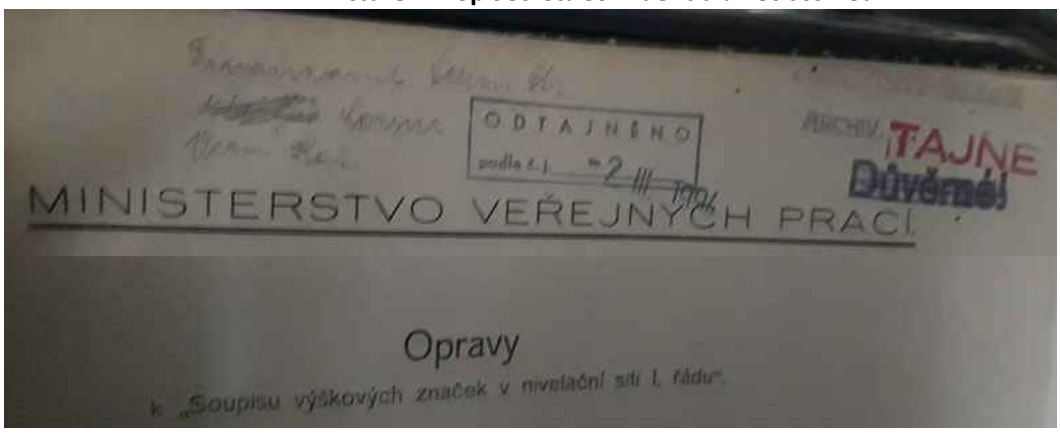
It is likely that even the unwanted documents that we have recycled may be considered valuable one day. We have withdrawn many books on perforated card machines, and on the DOS and Windows 3.11. I cannot imagine that, in future, they might be found valuable, but even if so, they are gone…

Top Secret!

As an anecdote, I am giving here an example of documents labelled „Top Secret". There is the example of a publication issued by the Ministry of Public Works, shown in Picture 4, titled: „*Corrections to the List of Line Marks in the Levelling Network of I. Degree*". To the stamps reading

„Top Secret" and „VÚGTK Confidential" was later added another stamp, reading „Declassified"; however, the several hundred documents were never entered in the electronic catalogue.

Picture 4. Top Secret! Confidential! Declassified…



Hidden Errors in Routine Cataloguing.

The Library of VÚGTK has moved and been remodelled several times. Most often than not, the physical condition of the collection improves by being moved from an unsuitable space to a better one; however, the collection may suffer losses as well.

And so, during the remodelling, old metal cases that hosted paper catalogue cards were destroyed, because they were very heavy and could not be moved. The original assumption that the library collection was fully digitalized proved untrue because the records were not digitalized in their entirety. The changes due to several generations of librarians may result in information loss. For example, we know now that during the digital transcription of paper records, about one thousand entries were not digitalized; however, we have no idea which ones they were, as this information has been lost. The rates of cataloguing errors differ from one library to another; our library records demonstrate that differences in the error rate are also contingent on the time period. The paper presented by the Olomouc library talks about the shock suffered by a librarian when checking the documents on the shelf against a printed ALEPH catalogue, prior to boxing the books according to the catalogue listing. The librarian was much surprised by the rate of errors. The listed books were not on the shelf. The shelf hosted unrecorded books. Multiple-volume books were listed as one item. The publication information and author's names were so incongruous that the correctness of identification of a unit was questionable, to say the least. In the end, because of the time-consuming nature of this kind of book identification, the librarian gave up.[14]

The Longevity of an International Organization.

The ICA (International Cartographic Association) has a long history. The Association was founded in Bern, Switzerland, in 1959. The first General Assembly took place in Paris in 1961. However, only the papers read at International Cartographic Conferences (ICC) from1993 onward are accessible in their digital form online. Older papers were published by the local organizers, without being centrally stored.

Before the Surveying Library takes up the stage, allow me to point out one thing: a huge international organization, whose uninterrupted existence began in 1959, has only been retaining its own grey literature since 1993. The ICA is fully aware of this and so its website contains a call to anyone owning older materials – be it in digitalized or analogue form – to get in touch (Picture 5).

Picture 5. The history of an international organization

Indeed, we did so, because we found 82 papers in our collection, written for the 1976 International Moscow Conference; the papers had been carefully and individually entered into the catalogue. Their bibliographic format is outdated, but their physical condition is good. We thus responded to the ICA call; we received an immediate response, and so this undertaking will surely have a good ending. We just have to find the time to scan the documents.

One may ask how many similar documents that may be desirable elsewhere are to be found in the archives of smaller and lager institutions.

Conclusion.

In this paper, we have presented the experience of staff librarians of small, special libraries with long institutional history. The libraries contain a large number of badly processed and unprocessed documents. Only a part of their collections has been registered, catalogued, made visible online, and made accessible to the public. Having explained the reasons for this situation, we have attempted to quantify it.

Naturally, there are doubts concerning the value of these kinds of dated paper documents. However, doubting their value might threaten their existence. Many will probably disappear without being valued at all. In this paper, we have given several examples of how happenstance preservation of grey literature resulted in its appreciation by an unexpected user.

The Surveying Library of VÚGTK does not question the value of any such document; that is why we are in the process of building a specialized, archive collection pertaining to our research institute. It is our goal to preserve the historical evidence of the development of the field. Grey literature forms a large part of this field of science and research; being a special library, we cannot assume that the National Library would do our work for us. The national depository of grey literature, administered by the Czech National Library of Technology that we collaborate with, concentrates on making documents deposited in our library more visible, rather than collecting and catering to the collection per se.

It is therefore imminently important that documents deposited in our library be identified, processed and made accessible in the shortest possible time. For economic reasons, there is little chance that the collection items will be processed in accordance with every rule. A librarian, who is new to the job, tries his best at first, being aware of every rule and regulation. Upon calculating the hours of work it would take to be in compliance, he becomes disillusioned, bringing the agenda to a standstill. The available work hours are spent on maintenance, and on the necessary updating that keeps things running.

The fight for funding is never-ending, whereby desperate libraries resort to desperate measures - which might prove creative at times. For example, the local museum is looking for students who would process their collections free-of-charge (Picture 6).

Picture 6. A local museum is looking for students to help…

Present Solutions and their Insufficiency.

In theory, book withdrawal has so far been the most popular solution. In the Czech Republic, the book withdrawal protocol works well, given that libraries are obligated to offer their withdrawn items to other libraries. This is done via email conferences. While the technology may be obsolete, it is perfectly adequate for the task, and so all libraries without exception are able to handle and use it; therefore, this type of solution may be viewed as an example of good practice.

In reality, however, book withdrawal is not a universal solution, given the above-described issues. Oftentimes, there are books that have neither been included in the collection, nor has there been a decision made about their inclusion. If they are not included, the motivation to withdraw them in the administratively correct way is lacking. Of course, individual donated items that we deem unsuitable for our collection may be offered to other libraries via the email conference. Finding and justifying the time it takes to process larger quantities of items is, however, difficult. Books of this kind should not exist in the library at all, because they signalize that either there is some unfinished work, or that there is a problem.

Automatic transfer of the Central Library catalogue entries may represent yet another present solution. However, this does not work for grey literature because only recently published, unspecialized items are entered. But what we are talking about here is grey literature: documents with questionable value that often represent unique items.

While the above-mentioned solutions are considered satisfactory in theory, in reality, they are often obviated, because they are time-consuming and thus financially draining. At each conference that we have recently visited, issues of unsatisfactory registering and insufficient cataloguing have resurfaced, only to be quickly dismissed for not pertaining to the main topic of the conference.

For example, at a conference on cataloguing, many hours were spent explaining the theoretical model of Functional Requirements for Bibliographic Records (FRBR) to the librarians. In highly contestable and, at times, entertaining cases (e.g.; the book was officially written by Obama's dog; while the editor's name is provided, who do we enter as an author?), understanding the model might facilitate a correct solution. Here, however, we may ask the regional library for help, which will be provided. On the other hand, I have yet to find a solution to the riddle about how to reach a satisfactory level of cataloguing of a large number of old books in a short period of time.

In order to find the right solution, one has to ask the right questions, and define the problem correctly. We are dealing here with a large number of unprocessed documents. The goal is to increase their visibility with as little cost as possible. We need a methodology to tackle the above-described situation, and set achievable goals and priorities without holding on to the illusion that every library might generate perfect conditions and find funding.

The following are some of the main criteria:

- financial viability
- increased visibility
- simplified processing

Auxiliary strategies may be as follows:

- multilevel book registering
- identification and registering of an entire collections
- inclusion of incomplete information in union searchers
- stabilization instead of innovation
- using the simplest technologies possible

For example, the Union Catalogue of the Czech Republic has established a set of sub-minimal requirements for an entry into the Catalogue; none of our entries is up to par. We do think that the sub-minimal entry requirements of the National Library are logical and inviolable, else the catalogue be plagued with a large number of duplicates and wrongly indexed books, thus losing its usefulness as a catalogue.

As a manner of an auxiliary solution, we propose that CASLIN or another meta-search engine searches through our inadequate records, placing a note toward the end that reads: In case you have not found the requested document in our catalogue, we offer you a link to documents of questionable quality, outside the CASLIN domain.

The Czech Republic has a high-quality regional system, whereby regional libraries help smaller libraries with their methodological work. Given this framework, an experienced librarian might visit a small library to help out, assessing their collection, and setting up their list of priorities. The visiting librarian might also be able to inform the local employees of a small special library –who are often unprofessional –of the kinds of documents that might be of interest to the National Library and the National Archive.

A „single-line description" might be used for documents whose value is uncertain. The twenty-year-old Dublin Core might serve as an example to follow. It contains fifteen properties, none of which is obligatory. A simple, permanent display of this kind might help detect an interested party, or prove that the documents are of no interest to anyone.

Naturally, being a small library, we are not qualified to propose wholesome solutions; this paper may only be taken for what it is: a call for help for forgotten books.

Understandably, the two supporting legs of the library science must be firmly lodged in both theory and real-life practices. While the former runs forward, the latter limps behind. As a staff librarian, I find it ironic that funding for this paper has been found, whereas funds for the cataloguing of our endangered collection are still lacking. While we are engaging in theory, the grey heritage of science and research is being quietly taken to the recycling centres.

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Grey Literature Archiving Pattern in BRICS Open Access Repositories

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Abstract
The aim of this study is to examine the grey literature archiving pattern in OA repositories of BRICS. The data for this study was retrieved from the Bielefeld Academic Search Engine (BASE) by conducting an advanced search on different document types archived by OA repositories. Findings of the study indicated that reviewed literature is the major document type archived in open-access repositories around the world. European and Asian repositories archived highest number of grey literature. Among BRICS, Brazil has dominated over other four nations by contributing maximum number of grey content, reviewed literature and non-textual documents.
Keywords: BRICS, Grey literature, Open access repositories, Archiving pattern

Introduction
Grey literature (GL) is as an important source of information for academic and research community. Citation studies across disciplines had revealed that GL is frequently used in research for further enrichment of knowledge in the field (Schöpfel et al. 2005). The U.S. Interagency Gray Literature Working Group (IGLWG), in its "Gray Information Functional Plan" of 1995, defined grey literature as "foreign or domestic open source material that usually is available through specialized channels and may not enter normal channels or systems of publication, distribution, bibliographic control, or acquisition by booksellers or subscription agents". The Third International Conference on Grey Literature held in Luxembourg in 1997, often referred to as the Luxembourg Convention defines GL as 'that which is produced on all levels of government, academics, business and industry in print and electronic formats, but which is not controlled by commercial publishers and where publishing is not the primary activity of the organization (Farace and Schöpfel 2010, p.1).
It is usually difficult to identify and categorize different types of literature into grey document types. Sometimes, it becomes difficult to access obtain GL because it is not covered by mainstream abstracting and indexing services. The development of specialized bibliographies and databases help users to get access to the GL and assert the information value of these type of documents (Luzi 2000). The four tier taxonomy to categorize information sources propounded by Kepes et al. (2012) with boundaries between tiers tend to be vague and permeable. Adam et al. (2017) further classified Kepes et al.'s taxonomy of GL into three tiers of grey shades: Tier 1 documents carry significant retrievability/credible intellectual content, such as technical and government reports, doctoral theses, master's and bachelor's theses, lectures, course materials and data sets; Tier 2 documents carries moderate retrievability/credibility which comprises annual reports, presentations, newsletters, company publications, NGO studies etc.; and Tier 3 literature carries low retrievability/credible content, such as blogs, letters, e-mails, tweets, catalogues, etc.

Grey Literature and open-access repositories
The evolution of web has brought invisible grey literature into visibility and seems to have caused a kind of inflation of the value of GL due to a kind of uncontrolled growth (De Blaaij 2004). Open access repositories play an important role in preserving and making available grey literature from other projects that might otherwise be invisible to those who could benefit from it (Lambert et al. 2006). The interoperable open access repositories are a better platform to disseminate scientific grey literature to enhance its discoverability, visibility, and an increased rate of citation (Ferreras-Fernández et al. 2015). The seminal disadvantage of GL, their availability and traceability can be addressed by establishing a national level grey repository accessible via a unified search engine (Myska and Savelka 2013).

Objectives of the study
- To ascertain the percentage of grey documents archived in open access repositories.
- To identify different GL document types archived in open access repositories.
- To explore GL archiving pattern in OA repositories of BRICS.
- To discover different GL document types archived in OA repositories of BRICS.

Methodology

The Bielefeld Academic Search Engine (BASE) was accessed on April 11-14, 2020 to collect data for this study. BASE indexes more number of open access sources in comparison to OpenDOAR and ROAR. It is a search engine for academic web resources which contains millions of documents from more than 7500 sources around the world. BASE is operated by Bielefeld University Library, Germany. BASE indexes all information sources with academically and scientifically relevant content (journals, digital collection, institutional repositories etc.) having an OAI interface and provide metadata via OAI-PMH protocol. The harvested bibliographical information of each document in the BASE indexes metadata fields like title, author, publisher, year of publication, source, document type, access type etc. A robust search mechanism and browse options help users to retrieve high quality, academically relevant results.

The document types indexed at the BASE are cautiously analyzed (Shivaram & Biradar 2019) based on the three tier taxonomy of grey documents classified by Kepes et al. (2012) and Adams et al. (2017). Tier one grey documents, such as reports, lectures, course materials, doctoral theses, master's and bachelor's theses, data sets and patents are identified as GL document types for data collection. Document types such as journals, conference objects, manuscripts, book, book part and reviews are termed as reviewed (white) literature and rest of the documents such as maps, images, audio, video, musical notations and software are classified as non-textual. Documents indexed under document type unknown and text are categorized as unclassified. The numeric codes assigned by BASE for GL document types are: 14 for reports, 16 for course material, 17 for lecture, 18 for doctoral thesis, 181 for bachelor thesis, 182 for master thesis, 7 for data sets and 1A for patents. An advanced search was conducted in the BASE to retrieve data for different type of documents archived and composition of GL by OA repositories of the world and BRICS.

Document Types Archived at BASE

Of the 160+ million documents indexed at the BASE constitute 39.77% reviewed (white) literature, 13.96% grey literature and 6.85% non-textual documents. The unclassified documents indexed under unknown and text constitute 39.42%.

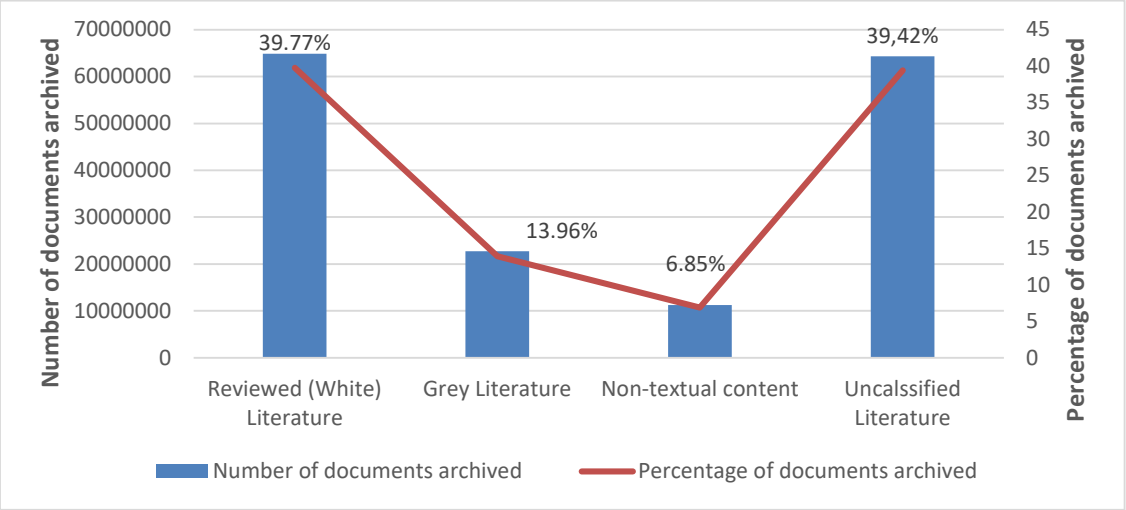

Figure 1: Document types archived at BASE

Documents Archived by Continent

The number of documents archived by continent is illustrated in figure 2. It is clear that Europe has indexed larger number of documents (approximately 71 million) in the BASE than other continents. North America archived approximately 52 million documents, followed by Asia and South America with approximately 10 million and 5 million documents, respectively.

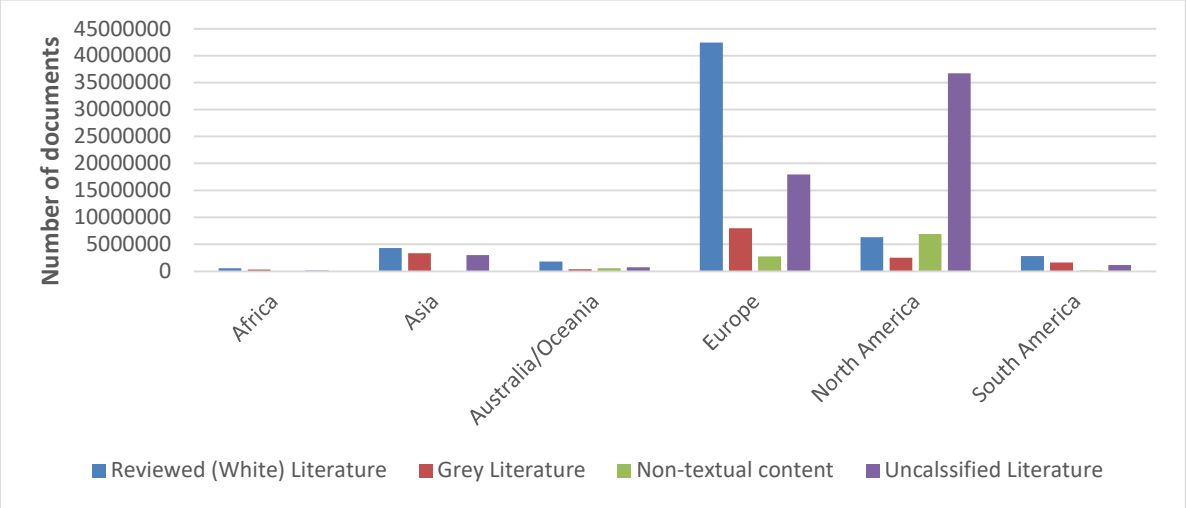

Figure 2: Documents archived by continent

The highest number of grey literature documents are present in European repositories, followed by Asian and North American Repositories. The highest concentration of non-textual and unclassified content is in North American and European repositories. European repositories have highest number of reviewed (white) literature.

Grey Literature Archiving Pattern by Continent

Figure 3 reveals that approximately 16 million GL documents are archived under different grey document types at the BASE.

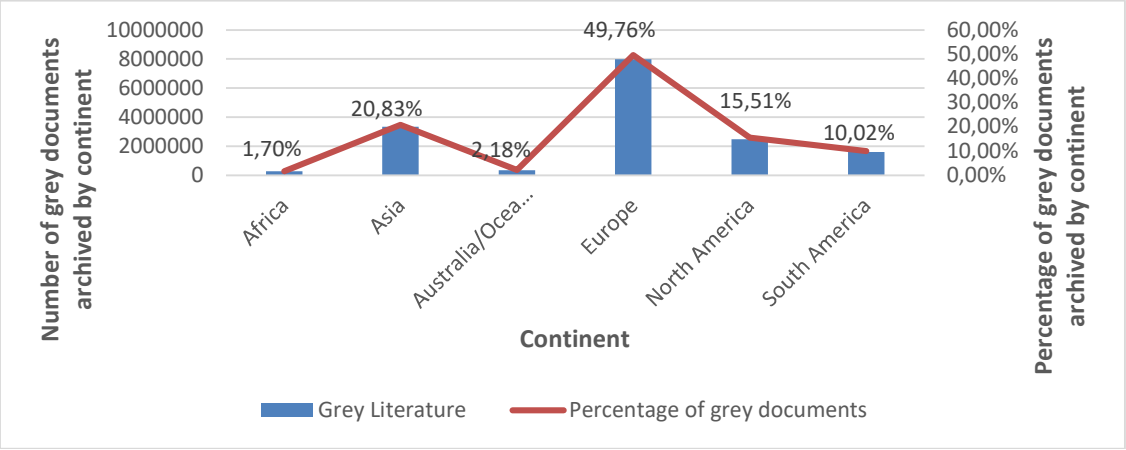

Figure 3: Grey Literature by Continent

Europe has highest number of GL (49.76%), followed by Asia (20.83%), North America (15.51%), South America (10.02%), Australia/Oceania (2.18%) and Africa (1.70%).

Grey literature document type archived in open-access repositories

Figure 4 depicts that European repositories has highest concentration of grey documents archived at the BASE. A large number of reports are archived in European repositoriesfollowed by Asian, North American, South American, Australia/Oceania and African repositories. The maximum number of theses are present in Europe, followed by Asia, North America, South America and Africa. A large chunk of datasets are archived in European and North American repositories. The highest number of course materials concentration is in European repositories, followed by Asian, North American, South American, Australia/Oceania and African repositories. European and South American repositories archived maximum number of lectures.

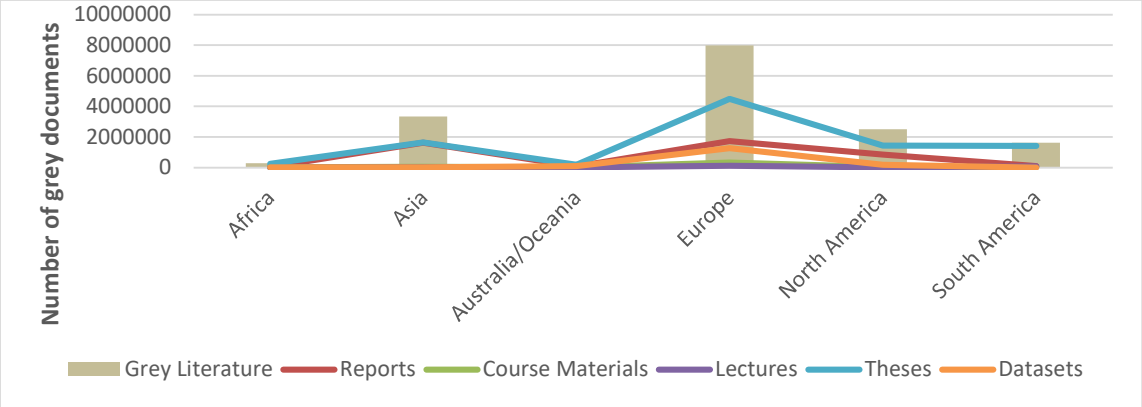

Figure 4: Grey Literature document types by continent

Document types archived at BRICS

Figure 5 reveals that among BRICS, Brazil is the leading contributor of GL, reviewed (white) literature and non-textual documents. Russia has the highest unclassified documents indexed at the BASE followed by Brazil, China, India and South Africa. After Brazil, China is the second major contributor of GL, followed by S. Africa, India and Russia. Russia is the second major contributor of reviewed (white) literature.

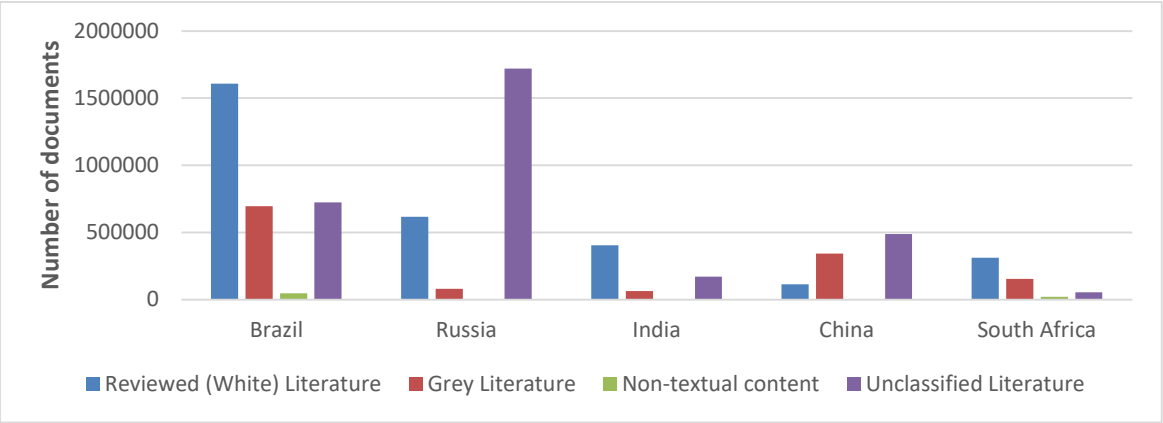

Figure 5: Document types archived at BRICS

Grey literature archived by BRICS

Brazil has contributed more than half i.e. 52.30% of the GL among BRICS, followed by China (25.71%), South Africa (11.45%), India (5.88%) and Russia (4.66%) (Figure 6).

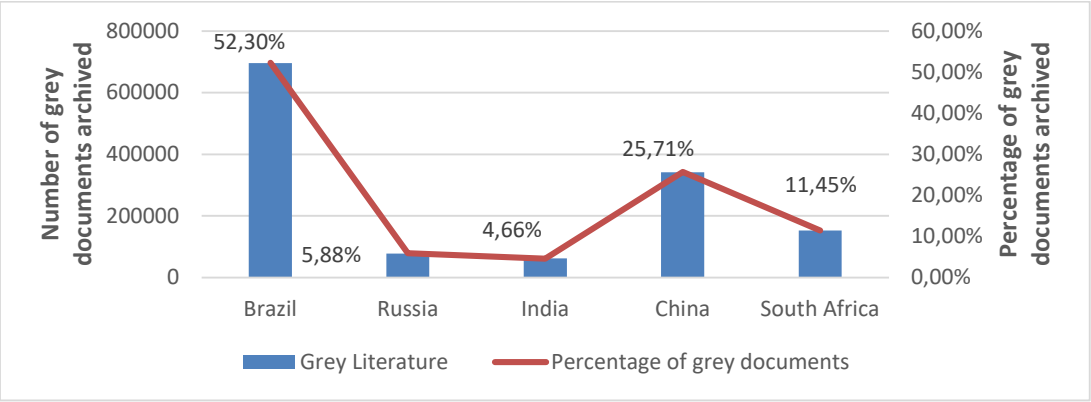

Figure 6: Grey literature archived by BRICS

The composition of GL in BRICS reveals that theses are the major (66.11%) grey document types archived at the BASE, followed by reports (24.88%), lectures (5.73%), patents (2.45%), course materials (0.78%) and data sets (0.05%) (figure 7). Brazil is the major contributor of theses, followed by South Africa, China, India and Russia. China is leading among BRICS by contributing highest number of reports, followed by Brazil, India, South Africa and Russia. Brazil archived

maximum (76246) number of lectures, while South Africa and Russia archived 4 and 1 lectures, respectively. BRICS have minimal presence of data sets.

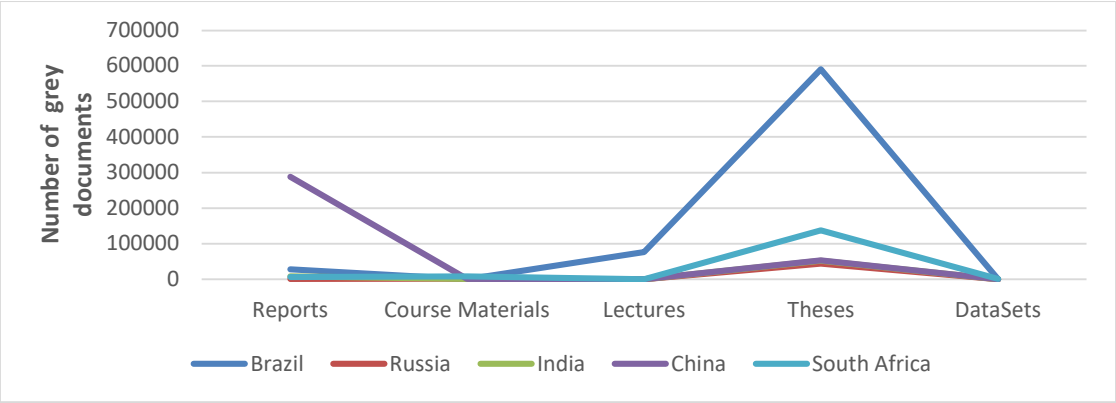

Figure 7: Grey Literature document types by BRICS

Conclusion

Grey literature (GL) is a valuable information resource which provides readers with research summaries, research progress, technical information, facts, statistics and usually it contains valuable and unique information. The volume of GL content archived in open access repositories is significantly low compared to the reviewed literature. European and Asian repositories are ahead of the rest of the world in terms of archiving GL. BRICS repositories managers need to study and follow the OA policies of European and Asian repositories to enrich their repositories with valuable grey content that supports teaching and learning (Shivaram & Biradar 2019).

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Data from "Grey Literature Archiving Pattern in BRICS Open Access Repositories"

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Abstract
The present study was conducted to examine the grey literature archiving pattern in OA repositories of BRICS. The data for this study was retrieved from the Bielefeld Academic Search Engine (BASE) by conducting an advanced search on different document types archived by OA repositories of the world and BRICS. Findings of the study indicated that reviewed literature is the major document type archived in open-access repositories around the world. European and Asian repositories archived the highest number of grey literature document types. Among BRICS, Brazil has dominated over the other four nations by contributing the majority of grey content, reviewed literature, and non-textual documents.

Keywords: BRICS, Grey Literature, Open Access, Repositories, Archiving, Data Paper

Subject Area: Information Science

Methods Applied

- Steps
  The Bielefeld Academic Search Engine[i] was accessed during April 11-14, 2020 to collect data for this study. An advanced[ii] search was conducted by continent (Africa, Asia, Australia/Oceania, Europe, North America, South America) to retrieve the documents types archived in these repositories. Further, an advanced search was again conducted to retrieve the document types archived by BRICS[iii-vii] repositories. The data thus retrieved is entered in MS-Excel for further analysis.

- Sampling Strategy
  Reports, lectures, course materials, doctoral theses, master's and bachelor's theses, datasets and patents are identified as grey literature document types. Document types such as journals, conference objects, manuscripts, books and reviews are termed as reviewed (white) literature and rest of the documents such as maps, images, audio, video, musical notations and software are classified as non-textual. Documents indexed under document type unknown and text are categorized as unclassified.

Classification - Document Types

Country	Document Types			
	Grey Literature	Reviewed (White) Literature	Non-Textual Content	Unknown, Unclassified
Brazil	695418	1609083	45685	722707
Russia	78184	616738	263	1720285
India	61899	402842	761	169096
China	341800	112029	691	488166
South Africa	152347	310686	19002	52055

Dataset Description

File name: Bansal Data.xlsx+Graphs
Format names and versions: Excel
Creation dates: from 2020-04-11 to 2020-04-14
Language(s): English
License: CC0 Waiver - no rights reserved
Repository/Archive name: DANS EASY Archive
Publication date: 2020-05-14

Potential Reuse of the Data

This study provides an insight into the volume of grey literature archived in the BRICS open access repositories indexed at the BASE. Findings of the study can be used by various stakeholders and policymakers to examine the causes for low concentration of GL in these repositories. But the limitation of this study is that data is limited to BRICS nations only. Researchers interested in conducting a detailed study of GL archiving pattern in the BASE can start with new data as this index is continuously enriched by integrating further sources.

Linked References

[i] https://www.base-search.net/

[ii] https://www.base-search.net/Search/Advanced

[iii] https://www.base-search.net/Search/Results?lookfor=country%3Abr&l=en&oaboost=1&ling=0&newsearch=1&refid=dcadven&name=

[iv] https://www.base-search.net/Search/Results?lookfor=country%3Aru&l=en&oaboost=1&ling=0&newsearch=1&refid=dcadven&name=

[v] https://www.base-search.net/Search/Results?lookfor=country%3Ain&l=en&oaboost=1&ling=0&newsearch=1&refid=dcadven&name=

[vi] https://www.base-search.net/Search/Results?lookfor=country%3Acn&l=en&oaboost=1&ling=0&newsearch=1&refid=dcadven&name=

[vii] https://www.base-search.net/Search/Results?lookfor=country%3Aza&l=en&oaboost=1&ling=0&newsearch=1&refid=dcadven&name=

Identifying, discovering and marketing grey literature in Science in the English-speaking Caribbean: A Case Study of Jamaica's Scientific Information Units [*]

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The University of the West Indies Mona Library, Kingston, Jamaica

Abstract
The English-speaking Caribbean produces its fair share of grey literature to the global scientific community. However, it has been a great challenge for information seeking communities to acquire and create access to these Caribbean resources. This research identified the factors contributing to the status of grey literature in Science in the English-speaking Caribbean, in particular Jamaica, and raises the profile by advocating for its proper organisation, greater accessibility, and marketing. It is a mixed method survey of twenty one (21) librarians working in information units that disseminate science information within the Scientific and Technical Information Network (STIN) in Jamaica. Fourteen (14) of twenty one (21) librarians participated in the survey. The findings indicate that the majority of them were very knowledgeable about grey literature. The institutions that they worked in were all producers of grey literature and their clients used it in the execution of their job functions. The majority found it challenging to access grey literature from their own organizations. Seventy five percent (75%) of the participants believed that lack of organisation contributed to the limited use of grey literature in Jamaica. The sharing of information was also identified as a cultural problem. All fourteen (14), one hundred percent (100%) indicated that they would be willing to join a team to organize grey literature and sixty two percent (62%) felt that grey literature should find its way into databases and another thirty eight percent (38%) felt it should be made visible on websites. Ninety three percent (93%) supported the use of seminars, workshops, public media and advocacy as strategies to raise awareness of the value of and to encourage the use of grey literature. The literature also supported the use of digitization as a means of raising awareness through greater access and inevitable exposure of their value to users.
Keywords: *grey or gray literature; science; English-speaking Caribbean, Jamaica; open access; marketing; advocacy.*

Introduction

Unlike regions such as North America and Europe where there are active and visible networks such as: commercial grey literature databases and listservs dedicated to collating and circulating this type of material, the same is not true of the Caribbean. Discovering the output of grey literature in the Caribbean has very limited support and very loose organization and, hence, the challenge that important, valuable material is undiscovered and therefore not accessible to be used in making valuable contributions that may impact research findings regionally and globally. Grey literature in science has the potential to make sterling contributions to innovation, impact productivity, and spiral growth in any economy, because of the valuable and sometimes unique research material scholars and technocrats have included in these documents. They impact research findings regionally and globally and can influence growth. However, very little research has been done on grey literature in the English-speaking Caribbean Library and Information Science (LIS) community in the last decade, as the focus has been more on creating and acquiring databases and ensuring that students have access to digital material in an attempt to reduce the ever growing digital divide. Thus, work on grey literature is overlooked. Consequently, it appears that not much is known about the grey literature in Science in the Caribbean and hence their impact has not been fully determined.

This research is aimed at identifying the factors that contribute to this ignorance, and what can be done about alleviating the challenges such as organizing them for accessibility, as well as to raise awareness of their existence, and to find ways to market the use of grey literature.

[*] Paper first presented at the IFLA WLIC Conference in Athens, Greece on August 23, 2019 during a Satellite Meeting entitled: Grey Literature: Scholarly Communication in a Digital World.

Research Questions

- What are the factors contributing to the current status of grey literature in scientific information units in Jamaica?
- What are the challenges and strategies for organizing grey literature?
- How can the awareness of the value of grey literature in science in Jamaica be increased?
- What are the means to be used in the marketing of grey literature in Jamaica?

Literature Review

Definition and Types

An overview of the literature indicates that there are multiple definitions of grey or gray literature (GL) as there are variances in its spelling. Naimpally et al. (2012: 37) noted that gray literature is hard to define, but includes such formats as technical reports and government reports. A more complete definition is, 'information produced on all levels of government, academics, business and industry in electronic and print formats not controlled by commercial publishing i.e. where publishing is not the primary activity of the producing body.' (Greynet.org). Bandara (1987:1) also refers to grey literature as 'unconventional literature that never gets published'. According to Paez (2017: 233), 'Gray literature can include academic papers, including theses and dissertations, research and committee reports, government reports, conference papers, and ongoing research, among others'. Bartolini et al (2017) highlighted the vocabulary found in all grey literature lexicons, indicating the variety and multiplicity of formats: website, thesis, study, standard, software, review, report, protocol, proposal, monograph, map, journal, interview, index, dissertation, directory, conference paper, catalogue, bibliography, article, annual, analysis and abstract, and may even include patents and newsletters which are not included in their list.

Since grey literature is unpublished information not located in commercial publications, it usually does not have an international standard book number (ISBN), or an international standard serial number (ISSN). Grey literature is produced from a variety of organizations, in a variety of formats, for a variety of purposes and, hence, it is challenging to create an umbrella definition for it. Corlett (2011) narrows the definition down to one primary feature when he states 'there is no simple definition of which literature is "gray" but the key feature is that it is not published and disseminated by commercial publishers, but by organizations where publishing is not the primary activity' (3). This appears to be the most significant distinction and defining feature from other literature.

This is highly significant because even among the producers of grey literature the term is not used or is unfamiliar, nor is its definition of primary interest. Soomai, et al. (2011) surveyed twenty one individuals involved in a Working Group giving advice on fisheries production and management, including scientists, technical and administrative staff as well as fishermen and owners generally. They viewed the information produced by the group as simply 'available information' (59). Soomai, et al. note, 'it was likely that the term "grey literature" was unknown or had little meaning for the stakeholders and therefore any publishing differences between grey and primary literature were not considered relevant as stakeholders were mostly interested with fisheries scientific information as a whole' (59). If this is the general status, then it is hardly likely that there will be organization, or awareness emanating from this source. Despite this, the value of grey literature in research in science should not be underestimated.

Value of Grey Literature in Science

According to Paez (2017: 234), 'It may provide data not found within commercially published literature, providing an important forum for disseminating studies with null or negative results that might not otherwise be disseminated. Gray literature may therefore reduce publication bias, increase reviews' comprehensiveness and timeliness, and foster a balanced picture of available evidence'. Mrosovsky and Godirey (2008) noted that in the tropics, the gray literature on fisheries is often the only source of information on particular sites or projects, or on particular species ... and

distribution and status studies that ignore gray literature may well be misleading (cited by Corlett 2011). Jennions and Moller (2002); Conn et al. (2003) noted that excluding gray literature from meta-analyses run the risk of over representing statistically significant results and large effect sizes, because they are more likely to be published and read. Gray literature must be viewed also as an addition to scientific literature. Genovesi 2005; Simberloff 2009, also note that there is a tendency to put some information such as biological invasions only in gray literature.

Corlett (2011) believes 'even the worst of the gray literature [in ecology] is at least a record of how governments and NGOs have spent other peoples' money' (3). He noted that government departments have access to data that are not available to other researchers and that gray literature commissioned by governments may have large impacts on policy irrespective of its quality. Ferraro and Pattanayak (2006) opined that "an increase in conservation efforts will only be possible when the results can be evaluated and what works and what does not work can be readily seen and made a case for it to be made accessible (4).

Some disciplines are dependent on information from their fields to make decisions. Naimpally et al. (2012) make the point that branches of engineering differ and while some may require current information to make decisions, civil engineers need to study older material to find out, for example, why some bridges fail; and they obtain these from government publications. They further noted that 'conference papers and proceedings are extremely important to computer scientists and engineers since their field expands at lightning speed and the most important developments are often first reported at conferences.' It is a fact that not all conference proceedings get published as do some other forms of grey literature. Bandara (1987) notes 'there are other cases (such as project plans) in which the documents never go beyond the 'grey' stage (4).

Grey literature can play an important role to cover areas that published information may not venture, for obvious reasons. Research findings may be ignored either by researchers or funding organizations when these may have a negative effect on their economic interests.

Bailin and Grafstein (2010a) made the point that solid research findings are suppressed or only appear as gray literature. Commercial publications at times do not create the same publication opportunities for research that challenges prevailing views, as do those that support them. Bailin and Grafstein (2010a: 80) believe that 'to be unaware of these potential gaps is to leave oneself open to the erroneous assumption that the conclusions reached by researchers published in traditional mainstream venues necessarily represent the full range of scholarly opinions, when, in fact, further investigation in other venues might lead to rather different conclusions'. This is further supported by Bandara (1987: 6) who noted that plans, project formulations and evaluations, technical memoranda, and various data sheets that may never be published and may never justify the expense for them to be organized 'contain findings observations, data and even opinions resulting from expensive research that is of use in other contexts'.

The value of this type of literature cannot be denied, Osayande and Ukpebor (2012) opine, gray literature is the principal source of indigenous information, and this very useful and valuable technological and scientific information and knowledge have been unexploited and in many cases, lost. Additionally, the sheer volume of grey literature written in science makes it worthy of being identified and made visible. Corlett (2011) found that overall the volume of gray literature, he identified but not seen when he conducted research for a book on Ecology greatly exceeded that of scientific published literature. He noted that an iceberg analogy is unavoidable, if geographically nine tenths of what is done in the region is hidden from sight, in the gray literature and dissertations, we need to make this content visible (5).

Organization of Grey Literature

Corlett (2011) also cited major challenges to the organization of grey literature: interagency rivalries, commercial sensitivity, government secrecy, fear of plagiarism, and lack of funding or technical skills which are supported in the literature. He also noted that quality is likely to remain low as much of the information reported in gray literature is done by 'inexperienced and isolated nonspecialists' and although the methods used try to be and usually are scientific, the aims of these reports are rarely mainly scientific' (4). It is not a secret that this type of literature is not formally peer reviewed or in some instances reviewed at all, leading generally to an unevenness in quality. Another factor contributing to challenge in organization is discovery and access. Companies and governments legitimately restrict access to certain types of information. Where governments are concerned, there are legal grounds for secrecy embedded in security and economic affairs. If the onus for archiving grey literature is placed on 'inexperienced and isolated nonspecialists' who do not have the skillset to do so, this is yet another major challenge to access (Corlett 2011). The literature converges around the thought that libraries and information units play a pivotal role in organizing these resources as librarians do possess the requisite skills set and unitedly they can conquer.

However, the major challenge to information units is, to locate them. Grey Literature lacks any strict or meaningful bibliographic control and can be hard to find, and requires specialist searching. Adams et al. (2017) cited Jeffery (2000) as saying that since grey literature is being digitized, its size and influence have increased and there is need to include it in systematic reviews. However, cataloguing and management can become a concern for librarians. If untrained persons assign improper bibliographic information it will impede access. Salmon and Smart (2012) concurred with Jeffrey indicating that improper bibliographic information can result in poor classification which can hinder retrieval of documents. Hence, there is a need for experienced and skilled cataloguers/indexers.

Increasing Awareness and Marketing Grey Literature through Access and Archiving

Since quality is such a major factor, marketing of grey literature needs to start with the improvement of the quality of the product. Corlett (2011) suggests that 'large improvements could be made fairly easily if reports were released first in draft form for comments and corrections.' He noted that 'a soft pre-release may weaken the public relations impact of the final report, but it would pay off in quality. Pre-submission circulation of manuscripts for comment is [a]standard practice in science'(4). In addition, producers of scientific gray literature must pay attention not only to quality but also archiving and access and could provide a free downloadable pdf of work online and allow discovery by free search engines such as Google or an email address for reprint requests.

Indeed, the Internet is one of the fastest ways to access gray literature and this is where the majority of the scientific community posts their research. However to identify this research requires expert searching. Bailin and Grafstein (2010b) suggest a simple web search using keywords, changing them to increase relevance and narrow the search to domains that are used by governments: such as .gov; and in the UK .gov.uk and nonprofit organizations: .org and in the UK .org.uk and for educational institutions: .edu and in the UK .ac.uk. and to use the advanced search engines of Google, Google Scholar or Yahoo where there is a slotted box allowing one to specify domains and document types and the use of additional search terms such as: 'data', 'statistics' or 'tables' to tease out relevant gray literature. Where online gray literature is invisible to automated software such as web crawlers, Corlett (2011) recommends that inclusion guidelines issued for each database (e.g., for Google Scholar,) be included to routinely boost the visibility of their products. This may require listing reports on a separate page that is structured in a way that makes them easy to 'crawl' and thus easier to locate. Additionally, Corlett (2011) recommends that larger documents above 5MB in any language can be uploaded to Google Books by the copyright holder.

Requests for access to certain information from companies are usually considered favourably. To increase access, Corlett (2011) suggests that these companies may simply need to be made aware of the value of these reports to academics and others (4). NGOs can be encouraged to make their data available through open access databases such as DOAJ (Stokes et al. 2010). An archiving solution advanced by Corlett is a central repository for gray literature. Another suggestion is for each organization to set up its own digital repository such as is the case with many academic institutions (4). Open source repositories exist, such as OpenGrey; Dans Data Archive; GreyGuide Repository; GreySource Web Index , have increased accessibility to grey literature globally.

It is important, however, that repositories design policies that are grounded in best practices to provide optimal access to grey literature. According to Lipinski and Kritikos (2018) 'the treatment of grey literature in university digital repositories is of particular importance due to the ephemeral and changing nature of grey publication types, editions, and formats' (Rucinski, 2015: 548; see Farace and Schöpfel, 2010). They noted that the access and use of grey literature in these repositories is often achieved via an Open Access (OA) policy but there is a gap in the literature with regards to the best practices for drafting and implementing these policies so as to promote 'unfettered access'. Their paper analysed the OA policies from a sample of U.S. iSchools, created by cross-referencing the iSchool Directory (iSchools, 2014) with the top twenty-five best LIS programs ranked by U.S. News and World Reports (U.S. News 2017). They found out that, of the twenty-two iSchools in the sample, all schools have university digital repositories but only fifteen have OA policies. They mapped these policies against variables drawn from the benchmark for open scholarly communication, the Harvard Open Access Project's Good Practices for University Open-Access Policies (Shieber and Suber, 2017; 2015; 2013) and recommends the use of best practices for drafting and implementing OA policies based on the analysis of the sampled iSchool OA policies and the Harvard OA policy variables.

Grey Guide is an open source repository and is such a guide to good practices and resources in grey literature. Bandara (1987) visioned a Caribbean Agricultural Information Network to organize agricultural grey literature as well as inventory of all agencies that generate and/or use this type of documentation, and identifying the agencies and what they are interested in, as well as workers within these organisations (1). His view was that such inventories 'prepared with the support of the agencies concerned would be helpful both to identify the documents and their producers at origin, and those to whom they are likely to be relevant and of use... leading to regional bibliographical database' (Bandara, 1987:10).

Currently the English-speaking Caribbean (ESC) already has a number of local databases and networks with archived grey literature in science. For example, UWI Scholar, a platform emanating from The University of the West Indies as well as the Mona Online Research Databases coming from its Mona campus showcases its scholarly output. There are regional academic networks such as Social Science Research Networks (SSRN) and international databases such as EBSCO and Proquest that have subsidiary databases indexing science information from the Caribbean in various formats.

The English-speaking Caribbean and the Status of Grey Literature

The English-speaking Caribbean consists of those postcolonial territories where English is the official language. This includes in alphabetic order: Anguilla, Antigua and Barbuda, Bahamas, Barbados, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, Puerto Rico, Saba, St. Eustatius, St. Kitts and Nevis, St. Lucia, St. Maarten, St. Vincent and the Grenadines, Trinidad and Tobago, and Turks and Caicos. This research is limited to investigating the status of grey literature only in the urban centres of Jamaica which is the largest of these islands, excluding Guyana which though part of the group is not an island. However, the overall aim is to start with examining the status of grey literature in science in Jamaica with a view to developing an action plan or model that can be copied by other disciplines and the other territories in this group.

Methodology

The research design is mixed method, largely quantitative with qualitative data gleaned from librarians working in science-related information units such as libraries in Jamaica. A list of 28 individuals was compiled from the Directory of STIN which comprised their telephone numbers and physical and email addresses. Given the fact that the list is short and the librarians were accessible via telephone and that the survey would be administered electronically, that the entire population was selected as the sample.

It was noted that five (5) of the units on the list were no longer functioning as information units and an additional two (2) libraries were without librarians. The survey was administered using Survey Monkey during one month - May to June 2019. There were follow up calls via emails and telephone calls to encourage participation. The survey consisted of three (3) main sections: demographics and awareness; challenges and strategies with organisation; and the advocacy and marketing of grey literature. It consisted of twenty one (21) questions: eight (8) focused on demographics and awareness, five (5) on challenges and strategies with organisation, and seven (7) on advocacy and the marketing of grey literature and a single free range question requiring them to give their personal experiences in identifying, discovering and marketing grey literature. Only fourteen (14) individuals out of twenty one (21) or approximately sixty seven percent (67%) participated in the survey.

Findings

Demographics and Awareness

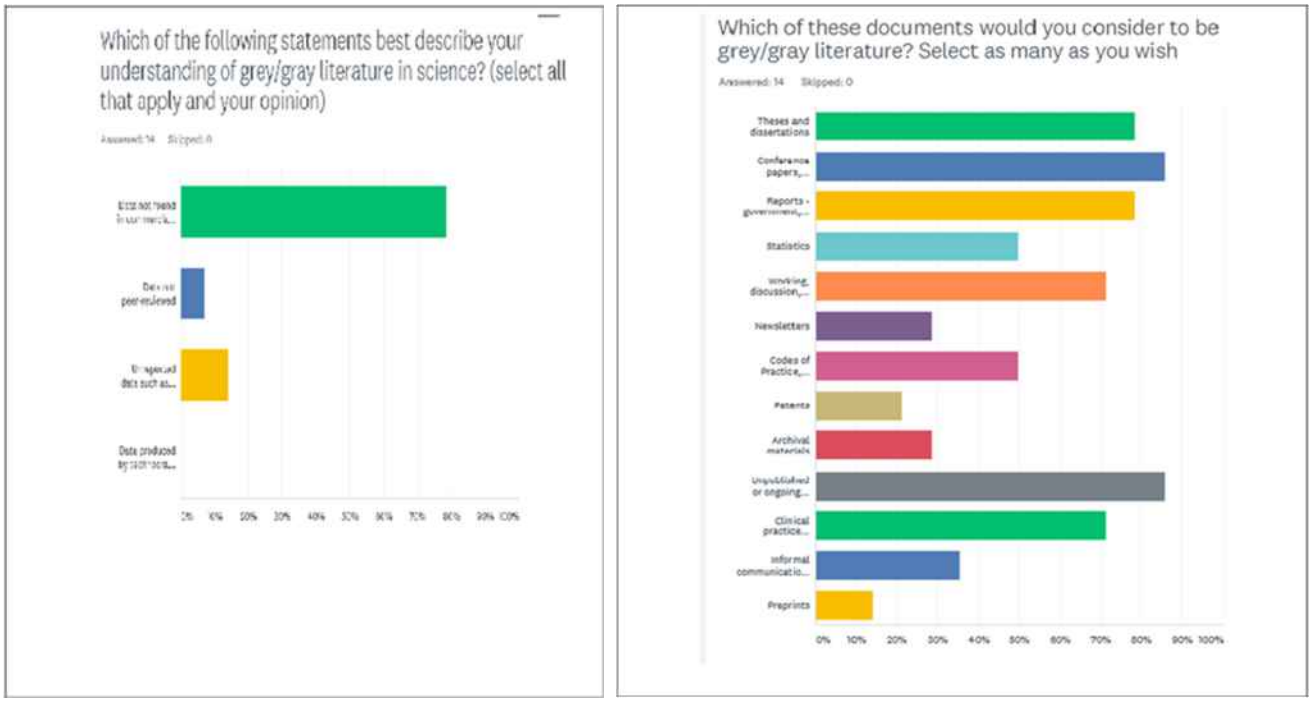

Figure 1: Awareness of grey literature

Figure 1 indicates that the majority of participants in the survey were aware of what is grey literature. Eighty-five percent (85%) of participants surveyed shared their understanding of grey/gray literature as “data not found in commercially published literature such as journals”. This is significant given that Corlett (2011) emphatically stated that the key feature in identifying “grey literature, is that it is not published and disseminated by commercial publishers, but by organizations where publishing is not the primary activity” (3). They also indicated they understood the types of documents that were considered by selecting grey literature in accordance with the literature such as listed by Paez (2017: 233).

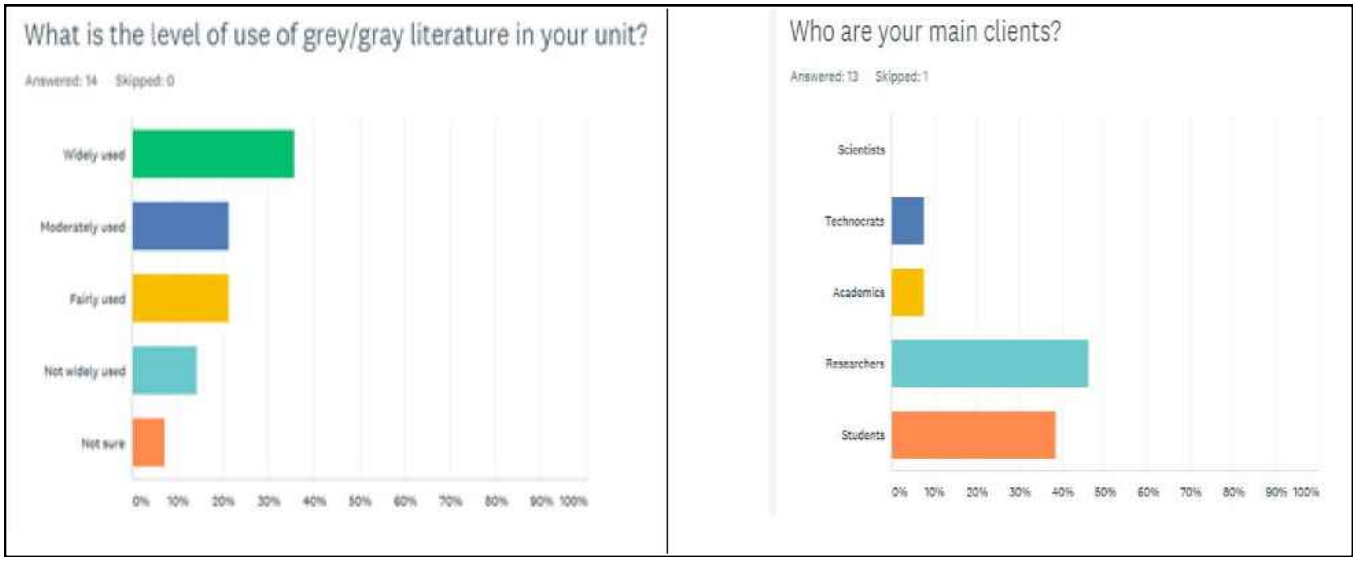

Figure 2: Demographics and level of use

Figure 2 shows that grey literature was well used as eighty percent (80%) registered that they were fairly to widely used. Surprisingly, no participant gave any reasons to support the level of usage in their Units. This sent a clear message that that there was a level of disinterest in finding out this data. Their core clients were researchers fifty percent (50%) and students thirty three (33%) with approximately eight (8%) from both technocrats and academics. The literature shows, while technocrats are mainly responsible for the production of this type of literature, it is used primarily by researchers and students. The literature also indicates that the data used in compiling grey literature come from research gathered in the field and it is important that these are made available to impact the quality of research.

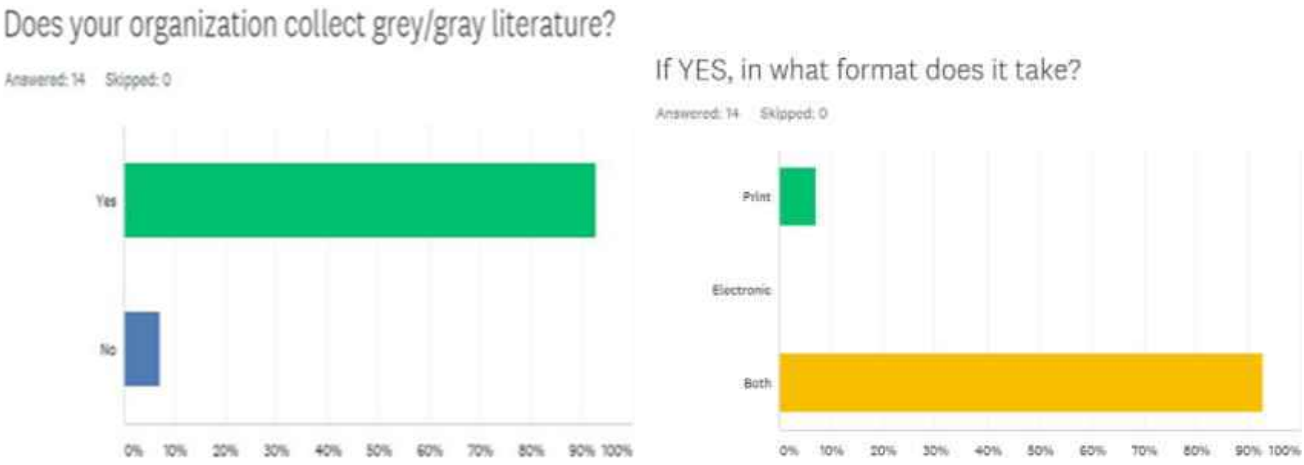

Figure 3: Production of grey literature

All participants confirmed in Figure 3 that their organizations were engaged in the production of grey/gray literature. This was not surprising as most of these institutions are government entities, and have a mandate to conduct research in their respective areas to support and enhance government programmes and or projects. Additionally approximately ninety five percent (95%) confirmed that their organizations produced grey/gray literature in both print and electronic formats, none produced entirely electronic.

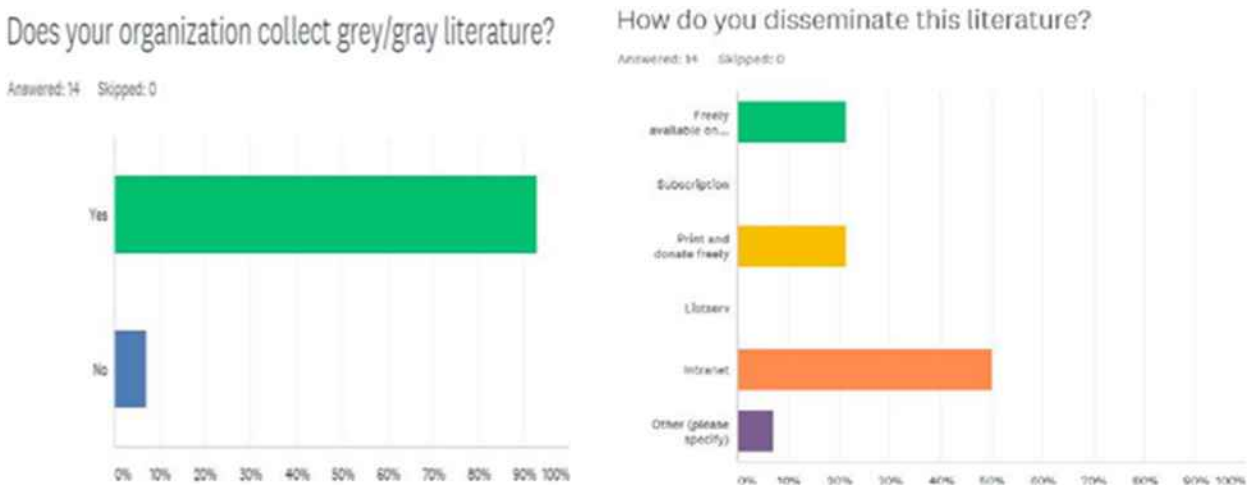

Figure 4: Collection and dissemination of grey literature

Based on Figure 4, ninety percent (90%) indicated that their organization collected grey literature and about the same figure indicated that they disseminated it either via 'local intranet'; 'print and donate freely' or made them 'available freely on websites'. No participant chose subscription or Listserv as a means of disseminating grey literature.

Challenges and Strategies with Organisation

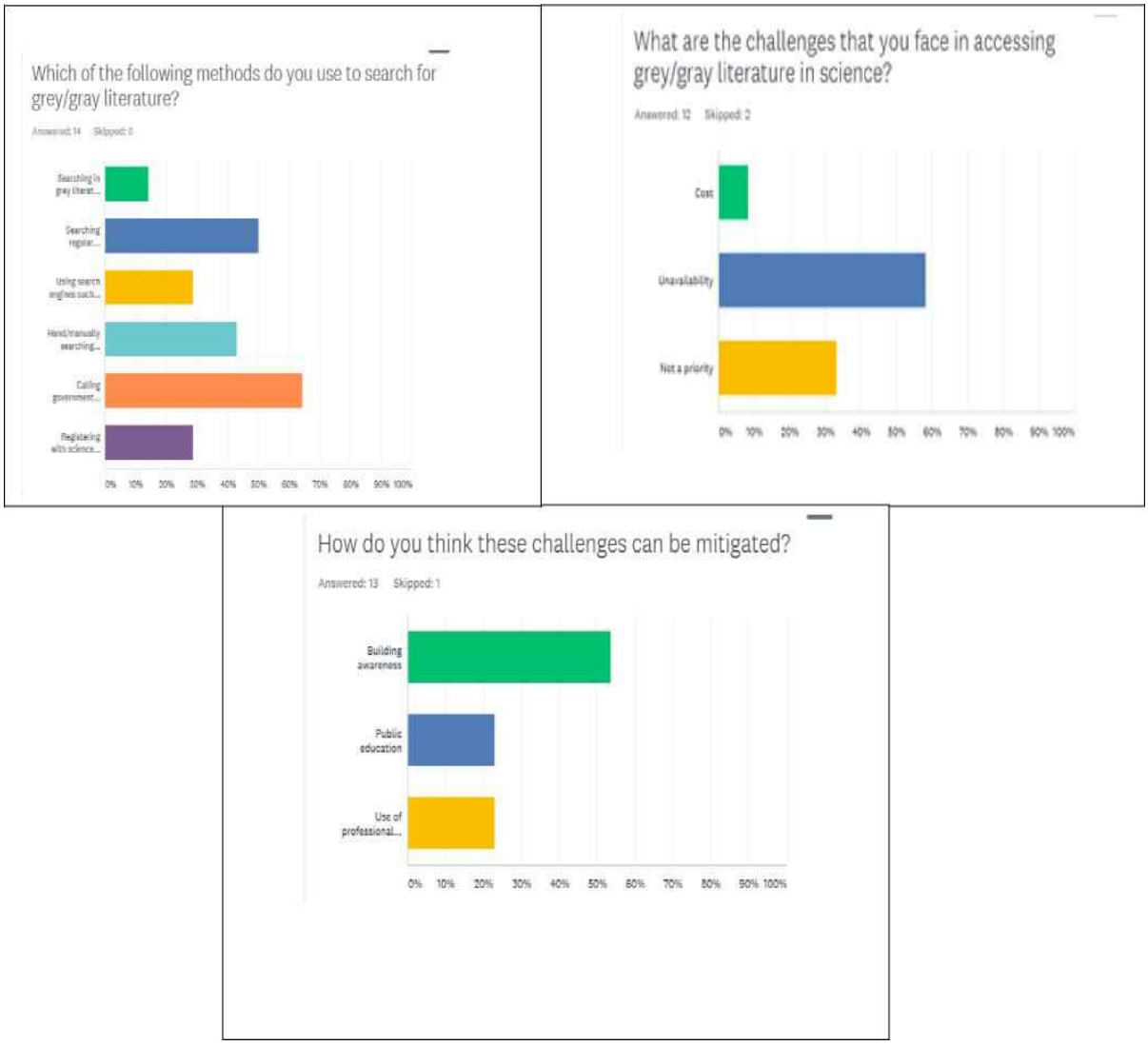

Figure 5: Search methods and challenges in searching for grey literature

According to Figure 5 the most popular method used in searching is 'calling government agencies' sixty four percent (64%) and searching databases (52%). Hand/manually searching through conference proceedings was also considered fairly useful by forty three percent (43%). This is corroborated by Mahood et al. (2014). 'Calling government agencies' suggests lack of availability of literature needed as well as a structured method of collection, or the failure of government agencies to provide material willingly.

Most participants fifty eight percent (58%) felt that the main challenge to accessing grey literature was its unavailability. It was also felt that grey literature was not a priority (33%) as implied by Corlett (2011). Mahood et al. (2014) who believe that including grey literature means consulting more evidence from a wider variety of sources, which serves to enrich the overall findings of a systematic review, and reduce publication bias. This speaks to librarians and information specialists understanding the value of grey literature. It also confirms the need for advocacy and marketing of the literature not only to researchers but also to library professionals.

Figure 5 also shows that fifty three percent (53%) felt that 'building awareness' would be the most appropriate way to address the challenges. 'Public education' (23%) and the 'use of professional networks' twenty three percent (23%) were also were considered important mitigation strategies. A free response to give a reason some spoke to the limited local research publication culture and indicated that local producers of grey literature should be encouraged to publish or make them available for use.

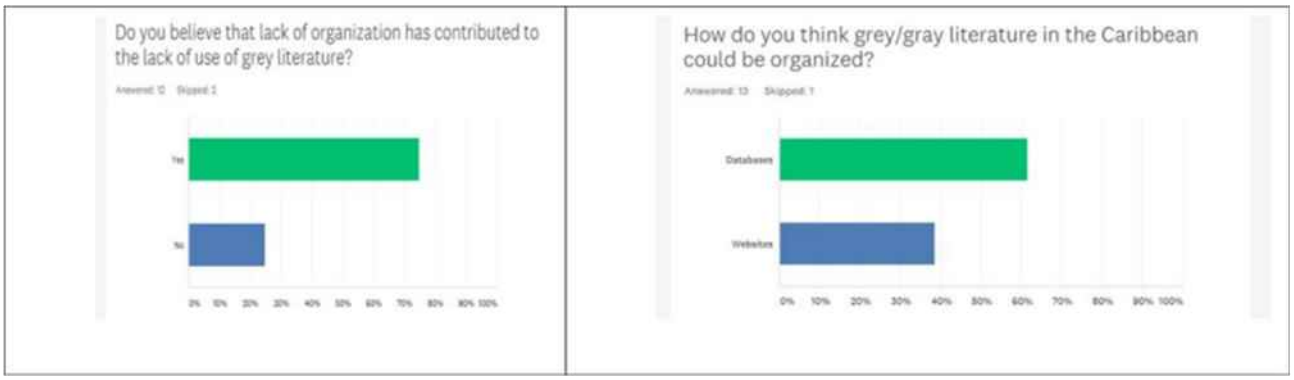

Figure 6: Organization of grey literature

Figure 6 indicates that seventy-five percent (75%) of participants believed that lack of organisation has contributed to the limited use of grey literature in the Jamaica. Also, one participant indicated that locally, there is a culture of not sharing information. However such a view is universal in respect of access to grey literature. Sixty two percent (62%) felt that grey literature should find its way into databases and another 38% felt that it should be made visible on websites. We noted that there is tremendous support in the literature for this (Stokes (2010).

Advocacy and the Marketing of Grey/Gray Literature

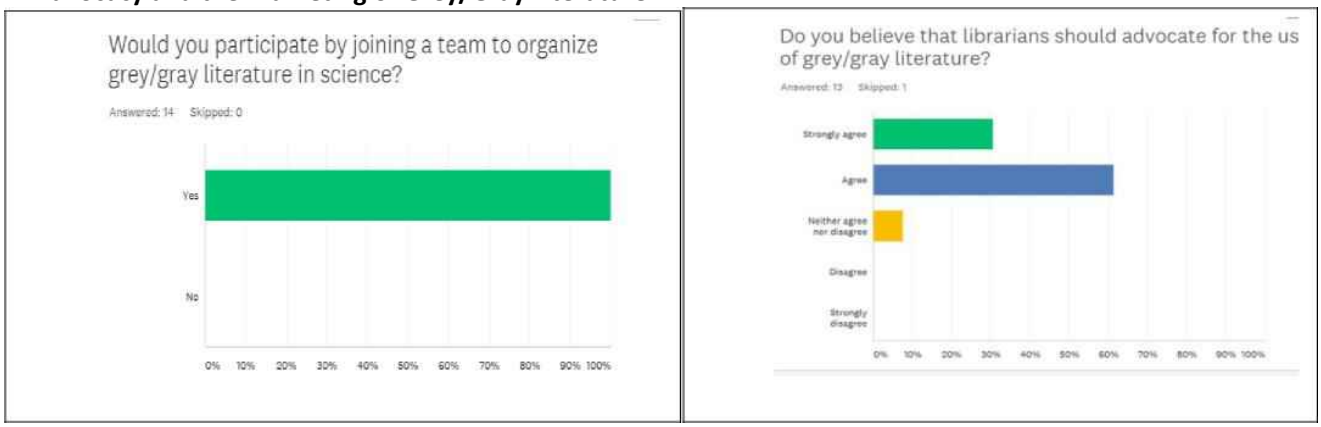

Figure 7: Organization and advocating for the use of grey literature

Figure 7 shows one hundred percent (100%) demonstrated a willingness to join a team to organize science grey literature and librarians felt that this type of literature was important, it was being used and should be accessible to users and that their use could be further increased if it were organized. The response registered a willingness on the part of librarians to commit time to organize this literature reiterating its value.

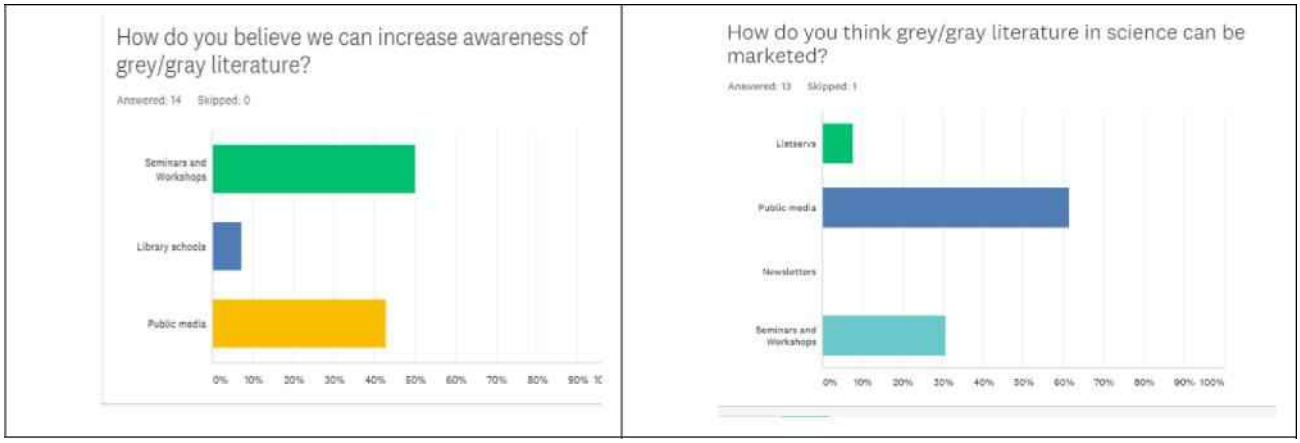

Figure 8: Increasing awareness and marketing grey literature

Figure 8 also indicates that the majority of persons, approximately 93%, did not feel that library schools would be effective in increasing awareness and opted for seminars and workshops and the use of the public media. The response to the two (2) questions posed in Figure 8 showed a preference for the public media fifty percent (50%) and approximately sixty two percent (61.5%) in the second instance and approximately 43% in the first 31% in the second instance felt that seminars and workshops could also be a channel to market it. This is supported in the literature, as social media is one of the fastest growing publicity media. Surprisingly, only 8 %, that is one individual, felt that Library listservs were useful, and no-one had any confidence in newsletters. These are library-centric media and maybe the thinking is that librarians are already converted, they need to go outside of their fraternity and seek other candidates.

The final question asked, "What are your experiences with using, identifying, discovering and marketing grey/gray literature? was open-ended. Based on the responses it is obvious that many librarians are not actively marketing the literature. A number of them indicated that their organization find it a challenge to make the literature available to the public as the producers of this type of material is not willing to share it. This supports the view of Corlett (2011) who cites legitimate restrictions on the part of government, like secrecy embedded in security, or inter-agency rivalries, and fear of plagiarism in the public sector. Other librarians think that the process of acquiring grey literature is slow and therefore not much enthusiasm is there for their acquisition. Furthermore, they are difficult to locate, cataloguing them is an issue, as well as the fact that they are not readily used in the academy due to uncertainty of the validity of the research presented, or if the author is not popular. Most of these documents however do have corporate authorship and are trade documents. It must also be noted that patrons welcome the availability of grey literature knowing that the information is not available elsewhere.

Some participants responded that they point users to free literature on the Internet, however, they do not think of it as marketing but merely carrying out a job function. This ambivalence is also expressed as a lack of experience with grey literature because they hardly get them. This emphasizes the fact that there needs to be a thrust to market them within and outside of information units. Participants also indicated that clients are usually appreciative when they are presented with new information especially after they were searching for the item before, and had difficulty finding it. These users are likely to spread the word and share how it can be used.

Conclusion

Grey literature has inestimable value hence as Adams et al. postulated grey literature "can make a variety of positive contributions to subsequent inquiry and practice". However the producers of grey literature are not aware of their value, and hence do not share nor market them or make them readily available. It is a challenge to organize as they are not easily retrieved since they lack meaningful bibliographic control; they are usually not peer-reviewed and sometimes are of poor quality. But their value as shown both in the literature and the findings exceeds any negative features.

It is certainly not ignorance but inertia that is contributing to low status of grey literature in science information units in Jamaica as the survey shows majority of participants are aware of what it is, their clients are demanding it and they are engaged in both producing, collecting and disseminating the literature but there is no active thrust to advocate and market it. There are challenges to access grey literature, as producers are not very willing to share and there is a disinterest in the Library community to organize and collect the literature in a structured way. They are aware of the value but not too committed to advocating currently for it use. STIN librarians, however, see the need for advocacy, and to make the public aware of their value through seminars, workshops, and social media, as the channels to use to let their voices be heard.

Organization and access to grey literature are obvious challenges and participants are clearly willing to not only engage with a team to organize but are willing to advocate and market them in their sponsoring organization as well as via the public media, seminars and workshops.

Recommendations

The initial steps in the process/journey in raising the profile of grey literature is a focused and collaborative approach to ferret out grey literature, acquire and get it organized in order to be in a strategic position to market it to stakeholders. There is need to sensitize stakeholders on the many ways in which grey literature are presented. The list by Bartolini et al. (2017) could be a start in searching and identifying grey literature in science in the English-speaking Caribbean. It is critical that a team work together to formulate a strategy through the use of best practices. The fourteen (14) professionals from STIN can form the core group that can deliver a database of science grey literature following the policy and procedures of GREYNET with everyone in the network engaged in providing the indexing to update such a database. Grey Guide could be adapted as a possible way forward in organizing grey resources in science in the Caribbean. This is highly possible as it is an open source repository and a guide to good practices and resources in grey literature would assist librarians in building good indexing practices in the area.

A website could go a far way in sensitizing, promoting and marketing such an initiative as indicated by Bailin and Grafstein (2010b). This is a way scientists who produce grey literature make their works available to the scientific community.

In addition, library schools should be proactive and introduce courses on grey literature in their programmes. Thus, making the next generation of librarians more agile and responsive to archiving, advocating and marketing grey literature.

Research into this area can be extended to examining the status of grey literature in other disciplines with a view to expanding the reach.

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Data from "Identifying, discovering and marketing grey literature in Science in the English-speaking Caribbean: A Case Study of Jamaica's Scientific Information Units"

https://doi.org/10.17026/dans-zw5-f5mn

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Abstract

The collected data represent responses from fourteen (14) participants to an online questionnaire, whose responses facilitated the production of a research paper: "Identifying, discovering and marketing grey literature in Science in the English-speaking Caribbean: A Case Study of Jamaica's Scientific Information Units" published in IFLA Library in October 2019[1]. The participants were the total population of the 21 active former members of the Scientific and Technical Information Network (STIN), after it was ascertained via telephone calls that 5 of the 28 units listed in the available Directory were defunct, and that 2 had no librarians. STIN is now incorporated along with other broad subject networks such as the Social & Economic Information Network (SECIN) into a single entity called *Government Libraries Information Network & Associates*. The dataset comprises answers to twenty-one (21) questions of which 17 allowed for single responses; 2 multiple responses which solicited additional responses; and 2 open ended responses. Of the total single response questions, 10 solicited additional responses. Question 7 is a unique single response question which facilitates the checking of the box of "Other" and/ or supplying additional Information. The survey consisted of 4 main sections: demographics and awareness [comprising 9 questions]; challenges and strategies with organization [comprising 6 questions]; and the advocacy and marketing of grey literature [comprising 5 questions]; and a single free range question requiring the respondents to give their personal experiences in identifying, discovering and marketing grey literature. The data was collected from May 2019 to June 2019 via survey monkey, where it remains stored along with a copy housed in the DANS Easy Archive. Its creative commons status facilitates its reuse and there is potential for comparison with similar subjects.

Keywords: Data Paper; Data Resources; Advocacy.

Subject Area: Information Science; Grey literature; English-speaking Caribbean, Jamaica, Marketing.

Methods Applied

- **Steps**
  The main areas mentioned above namely, demographics and awareness; challenges and strategies with organization; advocacy and marketing of grey literature; and a single free range question on personal experiences, were used as the base. Intelligent questions were then formulated under the first 3 areas with the expectation of getting the desired information from the respondents. The final edited product of the online questionnaire was then inputted in SurveyMonkey and the link generated was transmitted to the designated population.

- **Sampling strategy**
  The population of the survey was taken from an electronic copy of the useful directory of the institutions that comprised the former Scientific and Technical Information Units (STIN), now incorporated in the Government Libraries Information Network & Associates. The printed/and e-

directory contain the names, telephone numbers, and email addresses of the Science librarians. Telephone calls were first made to the librarians to explain what was being done, followed by survey via Survey Monkey. Telephone calls were made and email sent thanking those who had completed the survey, and to encourage those who had not yet complied. The survey was accessible online from May to June 2019.

Survey Population	Survey Respondents	Survey Results %
21	14	66.7%

- **Quality Control**
  No specific control was undertaken with the data received from the survey. Participants were sensitized broadly as to what the survey entailed prior to participation. All Librarians (100%) surveyed were knowledgeable about grey literature and could define it using definitions cited by Corlett (2011)[2]. All participants responded to all 21 questions surveyed except, one participant skipping questions 10, 11 and 15; whilst 3 participants skipped question 21. The names of the librarians and the institutions were not included on the final questionnaire. This was expected to encourage participants to be straightforward in their responses.

Dataset description

File name:	Robinson, Kerr-Campbell, and Patrickson-Stewart (Survey Data)
Format name and version:	PDF
Creation dates:	From 2019-05 to 2019-06
Language:	English
License:	CCO Waiver – no rights reserved
Archive name:	DANS EASY Archive
Publication date:	2020-06-23

Potential Reuse of the Data

The data collected in this survey augurs well for potential reuse and further analysis and reference due to its creative commons' status, and the rarity or paucity of information on grey literature emanating from the English-speaking Caribbean, including Jamaica. Several recommendations made in the research paper can be undertaken by other researchers and institutions for development, such as the creation of a formal course on grey literature by the Department of Library and Information Studies, at the Mona Campus, The University of the West Indies. A response rate of 66.7% is a credible rate of response. Nevertheless, as with long-tail research, limitation of this data is its size. Fourteen respondents do not actually allow for an accepted expression of results in percentages.

Linked References

[1] http://library.ifla.org/id/eprint/2750

[2] Corlett, Richard T. 2011 Trouble with the Gray Literature. BIOTROPICA 43(1): 3-5 https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1744-7429.2010.00714.x?casa_token=KvgvAy4JV9IAAAAA:9KIPslrezFdm4x5eqvRDxKOSwiOHsVvv6PHiN63yteZvBZnAHyBkOr45Blxm4zmFK0s75TsoWREAlKeq

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Data from "GreyNet's Capacity in Open Access Publishing: Mapping and Measuring its Digital Trail via the GreyGuide Portal and Repository"

https://doi.org/10.17026/dans-x7y-wmyc

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Abstract

GreyNet's web-access portal and repository is the GreyGuide – an internet resource that is fully open access compliant. Having benefited from technical developments, the migration of hundreds of metadata full-text records, and the addition of enriched fields and functionality since its launch, the GreyGuide now offers GreyNet[1] a testbed from which to map and measure its capacity in open access publishing. The population of this study is drawn from digital resources accessible via the GreyGuide Portal[2] and Repository[3]. The selection is based on the criteria that GreyNet is the content provider, that they are open access compliant, that they are sustained information resources, and that there are available use statistics from which to draw upon. This study focusses on the open access to GreyNet's range of publications, where attention is drawn to the specific document types that meet the sampling criteria.

Keywords: Data Paper; Grey Literature; Open Access; Publishing; Document Types

Subject Area: Information Science; Publishing

Methods Applied

● Steps

The method of approach began with a selection of GreyNet's sustained digital resources that are openly accessible via the GreyGuide Portal and Repository. It is noted that the GreyGuide also serves as GreyNet's web access portal and repository. Each of the 16 digital resources selected for the study were at least two years online accessible and each represented a different document type. A standardized tracking sheet was then developed in order to capture the multiple variables used to describe each of the digital resources.

GreyNet's Capacity in Open Access Publishing

Tracking Sheet Template

GreyGuide – GreyNet's Web Access Portal and Repository

Track A: Web Access Portal

Conference Posters	Conference Slides	Program Books	Conference Proceedings	GreyNet Newsletters	GL Advertorials

Track B: Portal Jump Page

Conference Videos	Research Datasets	Conference Preprints	Grey Forum Programs	GreySource Index	GL Guides

Track C: Web Access Repository

GLA Conference Abstracts	GLP Conference Papers	BIO Biographical Notes	RGL Database

The tracking sheet shown above, contains three separate tracks labelled A, B, and C. These correspond to the publications that are openly accessible via the GreyGuide Portal, the GreyGuide Portal as Jump Page, or the GreyGuide Repository. Among the variables used to describe each of the digital resources include the date of origin, number of digital publications, assigned persistent and unique identifiers, discovery, gateway and other aggregator services, as well as source, type, and available use statistics. The nine tracking sheets were entered in an Excel file and each appears as labelled accordingly. Together, these provide an indication of GreyNet's current capacity in open access publishing.

● Sampling strategy
The population of this study is drawn from digital resources accessible via the GreyGuide Portal and Repository. The selection is based on the criteria that GreyNet is the content provider, that they are open access compliant, that they are sustained information resources, and that there are available use statistics from which to draw upon. The study focusses on the open access to GreyNet's range of publications, where attention is drawn to the specific document types that meet the sampling criteria. The study was carried out in May 2020 and its findings are drawn from data compiled from April 2020.

● Quality Control
There was no specific control carried out on the data, otherwise then that they were compiled from empirical sources that can be verified.

Dataset Description

File name:	GreyNet Tracking Sheets - May 2020
***Format name and version*:**	Excel (Enhanced Metafile)
Creation dates:	*from* 2020-04-01 *to* 2020-04-30
Language:	English
License:	CC0 Waiver - no rights reserved
Archive name:	DANS EASY Archive
Publication date:	2020-05-27

Potential Reuse of the Data
The data collected provides a snapshot of GreyNet's current capacity in open access publishing. It opens the way for periodic updates, which would serve as a gauge in mapping and measuring its ongoing capacity in open access publishing. While this initial exercise and the data which it has produced is specific to GreyNet, it invites other such communities of practice in the field of grey literature to compare this data with that of their own. Such data across the board would provide further evidence as to why sustaining and developing grey literature in its diverse and multiple document types is of quantitative value. The limitations of this initial set of data deal primarily with the source, type, and available use statistics. The sources and types of the current statistics are presented in different formats and detail. And, the available use statistics do not include citations and references, which are important in gauging the impact of a publication. The data however remains preserved in a national archive, which carries the CoreTrustSeal[4] and by way of this data paper demonstrates compliance with the FAIR principles[5].

Linked References

[1] http://www.greynet.org/
[2] http://greyguide.isti.cnr.it/
[3] http://greyguiderep.isti.cnr.it/
[4] https://www.coretrustseal.org/wp-content/uploads/2018/04/DANS-Electronic-Archiving-SYstem-EASY-.pdf
[5] https://www.force11.org/group/fairgroup/fairprinciples

Twenty-Second International Conference on Grey Literature
'Applications of Grey Literature for Science and Society'

Italian National Research Council, Rome, Italy

Online Conference

Call for Posters

Title of Poster:	**Conference Topic(s):**
Creator Name(s):	**Phone:**
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Persons who seek to present a poster during GL2020 are invited to submit an English abstract between 200-250 words. The abstract should describe the project, activity, information product and/or service. The abstract should likewise include a title, name(s) of the creator(s) and their full address information. Abstracts are an important source of information available prior to the conference that will be accessible to both the delegates and participants.

Related Conference Topics and Areas of Interest

- ☐ **Agriculture, Forestry, and Fisheries**
- ☐ **Economics, Information Science, Legal issues**
- ☐ **Bio-Medicine, Health Science**
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- ☐ **Other fields related to Grey Literature:**

Due Date and Poster Abstract

Abstracts can be submitted starting June 15, 2020 and closing on November 5, 2020

- Click **http://greyguiderep.isti.cnr.it/userarea.php?langver=en**
- Select GLA: Conference Abstract - International Conference Series on Grey Literature
- Complete the online template and remember to press the submit button!

The conference program looks forward to showcasing your poster. Prior to the event, your abstract will remain online accessible. Those submitting poster abstracts will receive verification upon their receipt. This will then be accompanied by further guidelines for digital posters. Those submitting only posters will not be required to pay the Author Publication Fee.

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