

Digital Publishing, Open Access, and Grey Literature: The War in Ukraine 2022 as a Use Case

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Introduction

The underlying approach in this study focuses on digital persistent identifiers and other linked open data as they become connected and interrelated in the course of research and whose outcome is published as grey literature. In January 2022, GreyNet published its 2nd edition of the International Directory of Organizations in Grey Literature (IDGL). This edition includes record entries from 45 countries worldwide with a listing of 224 organizations. Each entry contains the organization's URL and ROR ID. By way of the ROR ID, immediate access to other digital persistent identifiers is gained, such as GeoNames ID, CrossRef Funder ID, ISNI, and Wikidata. The digital publication of this directory provides a lead into our research project dealing with digital publishing, open access, and grey literature.

The War in Ukraine 2022 serves as GreyNet's use case. An online survey was designed and the questions formulated in such a way that a number of the responses provide additional linked open data and digital persistent identifiers derived from publications on the current War in Ukraine. These include URLs, DOIs, and ORCIDs. Survey data together with the linked open data gathered and compiled in this study are then analyzed. The results are expected to demonstrate the currentness of grey literature, its diverseness in formats and document types, the organizations that stand behind these publications, and how actionable persistent identifiers opens research in grey literature to a new level-playing field situated in a FAIR environment. An environment where data is not only findable and openly accessible but also interoperable and reusable by means of digital publishing.

Method of Approach

A ten-question online survey was constructed and implemented via SurveyMonkey. Five of the questions were open-ended, three of which requested linked data. The other five questions allowed for Yes/No responses – four of which included comment fields. The first question on the survey required a Yes response. This confirmed that the survey respondent agreed to the Participant Consent Form stated at the start of the questionnaire that dealt with aspects of confidentiality, the risks and benefits, as well as the voluntary nature of the survey including a withdrawal clause.

Survey Questions

1. Do you consent to take part in this study on the terms described above in the Participant Consent Form?
2. What is your organization's name and (if applicable) the acronym?
3. What is the URL of your organization's homepage?
4. Has your organization published one or more documents on the 2022 War in Ukraine?
5. If so, please provide a hyperlink or DOI to one of the publications?
6. What document type best describes the publication? (e.g., Blog, Podcast, Report, Policy Document, etc.)
7. Does the publication contain research data?

8. Does the publication in whole or part consist of audio-visual material?
9. Are you an author, co-author, or editor of the publication?
10. Please enter your name and/or ORCID along with your email address?

The link to the online survey was created on March 22nd 2022 less than a month from the start of the War in Ukraine. It was then posted to GreyNet's social media and distribution list on which all entries in IDGL are included. The online survey was closed on May 19th 2022 with 35 survey respondents. 88% of the survey questions were answered. And, on average, each of the 4 Yes/No questions were accompanied by 9.5 comments.

Responses to the ten survey questions were transferred to an Excel spreadsheet, whereby a record containing 19 fields was created for each of the 35 respondents. Six of these fields were added to each record derived from information and open data accessible to or assigned by GreyNet. These include the record ID, the organization's acronym, country of residence, sector of information, ROR ID, and whether it was included or not in the 2022 edition of the International Directory of Organizations in Grey Literature.

In brief, the respondents' answers to the online survey would allow for the capture of a number of types of linked data including: ORCIDs, DOIs, ROR IDs, URLs, as well as email addresses.

Part One

Overview of the Survey Findings

Of the 35 survey respondents four were anonymous. Fifteen of the respondents were from organizations in the academic sector, eleven from government, two from business, and the remaining seven were from NGO, IGO, or independent organizations. These organizations are located in fifteen countries worldwide: Australia, Bahamas, Canada, Czech Republic, France, Germany, Italy, Japan, Korea, Netherlands, Philippines, Slovakia, Slovenia, Spain, and the USA. Twenty-nine of these organizations carry a ROR ID and twenty-six were included in the International Directory of Organizations in Grey Literature (IDGL).

Twenty-three of the survey respondents indicated that their organizations had published about the War in Ukraine 2022, while eleven organizations had not yet published on the war as of the date on which they completed the online survey. One of the responses was considered invalid in that the linked provided was not related to the War in 2022.

The links to the publications were openly accessible and categorized in thirteen grey literature document types including: a survey ⁽¹⁾, website ⁽⁴⁾, poster ⁽¹⁾, policy statement ⁽⁴⁾, research guide ⁽¹⁾, panel discussion ⁽¹⁾, article ⁽¹⁾, blog ⁽³⁾, report ⁽²⁾, press release ⁽¹⁾, information note ⁽¹⁾, letter ⁽¹⁾, and speech ⁽²⁾. Only three (13%) of the twenty-three publications contained research data, while eight (35%) contained audio-visual material. Four of the respondents were (co)authors or editors to one of the twenty-three publications. However, all twenty-three of the survey respondents have an assigned ORCID – indicating that they have publications on record.

Summary of the Respondents' Comments

A summary of the 38 comments that accompanied the four yes/no questions on the survey is shown as follows:

When asked if their organization published one or more documents on the War in Ukraine 2022, those who answered 'yes', further commented that their library provided information services in Ukrainian as well as basic information about help for Ukrainian refugees in their country. Research grants were made available to Ukrainian researchers. Reports of statements by academic and religious spokesmen were published. Reliable curated links regarding the War in Ukraine were shared. Events were organized on

campuses dealing with the War. Appeals to end the War were drawn-up, signed, and published by both researchers and staff. Other respondents mentioned that while they did not publish, they had aggregated a manifold number of reports on the War in Ukraine.

Those who answered 'no' to the question responded that while their department had not yet published about the War in Ukraine, perhaps others on their campus did. Mention was made that technically they were not publishers. Further mention was made that their repository did however contain published articles dealing with that which led up to the War in Ukraine. Other respondents indicated that they intended to publish on the War in Ukraine in the near future.

When asked if the documents published on the War in Ukraine contained research data, three of the respondents confirmed that they did, while seven commented that their documents did not or that they were not aware of. One respondent mentioned that data was being compiled, but has not yet been published. Another commented that if reposts counted, then these did contain research data.

When asked if the publications contained audio-visual material, mention was made of video recordings of seminars and conferences dealing with the War in Ukraine. One respondent, who answered no to this question mentioned again that if reposts were included, then some of them contained audio-visual material.

In the final 'yes/no' question in the survey, when asked if the respondent was an author, co-author, or editor of the published documents, three stated that they were, another was a signatory to a publication, and again mention was made that his/her role was that of an intermediary and not an author.

Summary of the Primary Texts

It is important to understand the chronological order in which the primary texts were published and later came to be included in this study. The key dates are the start of the War in Ukraine on the 24th of February 2022, the publication of the link to the online survey on the 22nd of March 2022, and the close of the link to the online survey on the 19th of May 2022. Hence, the survey was opened less than a month from the start of the war and closed just under three months into the War in Ukraine.

An analysis of the twenty-three publications drawn from this study are grouped and summarized as follows:

Clearly stated was a condemnation of the violence and an expression of shock. It was seen as a wake-up call, especially regarding the threat by Putin of nuclear deployment. This could lead to a sharing of nuclear weapons by Russia as well as Ukraine's allies.

Solidarity was called upon among Ukraine's allies and was witnessed and demonstrated in the way the citizens of Ukraine united in their response to the invasion. The principle of Sovereignty was upheld as contained in international law as well as in the U.N. Charter and reiterated by IFLA. By way of an EU Directive, the millions of Ukrainians that fled the war to neighboring EU countries were allowed to move through the EU as EU citizens. Likewise, Ukrainian research institutions were granted the same rights as those of the EU Member States. On the other hand, there were a suspension of agreements with Russia by European research centers.

The overwhelming and outspoken support for Ukrainian students can be understood given that near half of the survey respondents, who provided links to publications on the War in Ukraine were from academic institutions. This support is by way of scholarships, educational resources at no cost, and stipends. Support was also extended to staff and their families. Material support was further raised and mounted for refugees and other vulnerable groups affected by the War in Ukraine. This was voiced at campus gatherings.

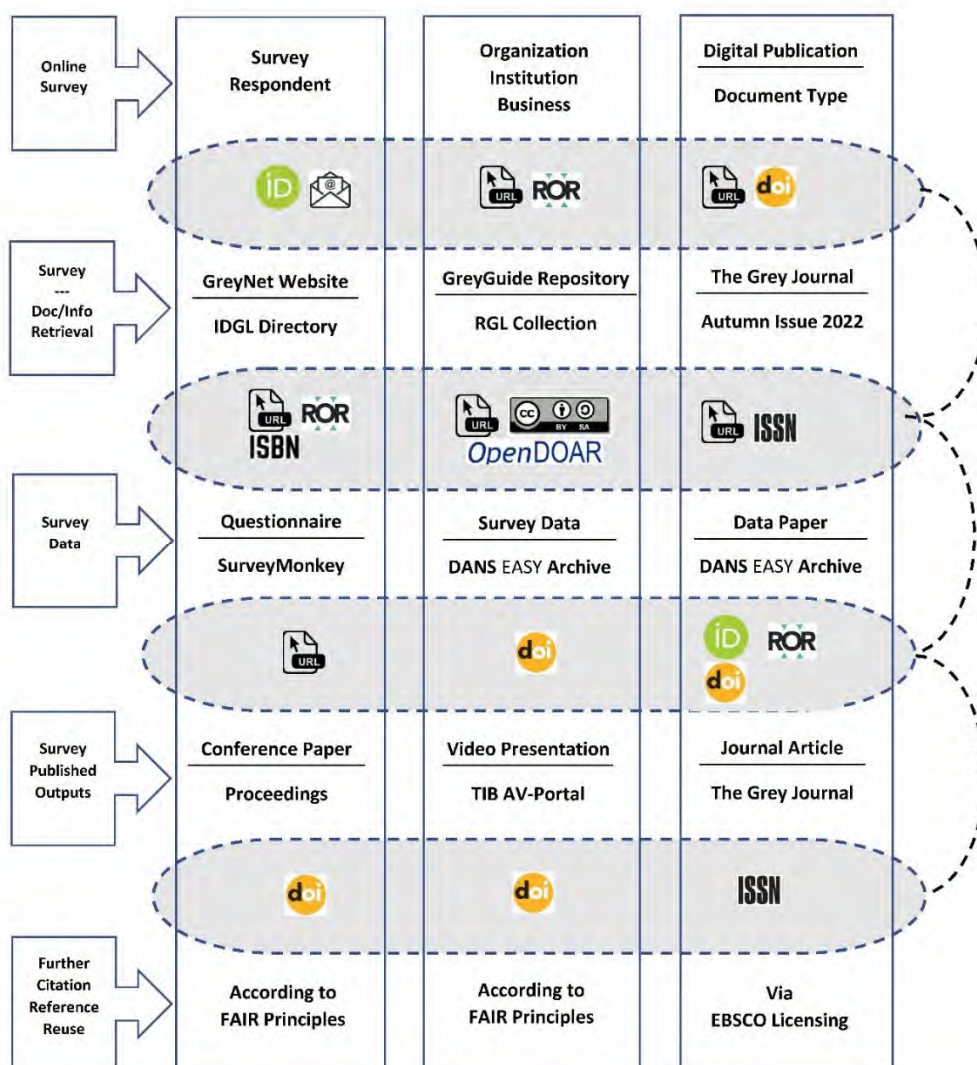
Express mention was made to avoid ad hoc policy decisions and to ensure accurate information about the War in Ukraine. While the free flow of information must be assured, it should not be at the cost of spreading disinformation and misinformation. A number of the publications addressed efforts to provide in-depth background information about that which has led up to the War in Ukraine. Mention was also made that print runs would be replaced by e-publications, due to the disruptions in deliveries and other information services.

Early on in the War, publications discussed the devastating effect it would have on the cultural heritage of Ukraine. Already a museum housing the work of an UNESCO recognized artist was destroyed. SUCHO, an initiative of over 1,500 international volunteers that collaborate online to digitize and preserve Ukrainian cultural heritage published a digital poster on their efforts. Likewise, early on in the conflict, FAO signals the risks involved for global agricultural markets that would aggravate the world food crisis.

Part Two

Tracking Digital and Product Identifiers in Publishing

The number of respondents to the online survey may not be considered a sizeable population in itself. However, when joined by persistent identifiers and other related data together with links to primary texts on the War in Ukraine, we can track and trace the impact this has for digital publishing and grey literature.



The schematic diagram (above) shows GreyNet’s publications both in textual and non-textual formats originating with the online survey and connected throughout by

actionable persistent identifiers and other product identifiers. Beginning with the publication of the link to the online survey (*top left column*), the responses provide access to data related to the respondents, their organizations, the types of grey literature documents published on the War in Ukraine, etc. In turn, these data are themselves connected to digital and product identifiers such as ORCIDs, ROR IDs, URLs, and DOIs.

Impact of Survey Data on Digital Publishing

Data derived from the survey is then also available for inclusion in a revised and updated edition of the International Directory of Organizations in Grey Literature (IDGL). This information resource is openly accessible on GreyNet's website¹ and on the GreyGuide², GreyNet's web access portal and repository listed in OpenDOAR. Further, by way of an advertorial in *The Grey Journal*³, greater awareness and wider coverage is given this grey literature resource. The URLs that link to IDGL and its assigned ISBN along with the ROR ID assigned to GreyNet⁴ serve in implementing FAIR data principles⁵.

While the survey data remains accessible in SurveyMonkey⁶, it is further published in the DANS EASY Archive⁷ and becomes openly accessible via CCO licensing. Added to the published survey data in DANS is a data paper⁸ that provides a detailed and technical description of the data. This is further published in *The Grey Journal* licensed by EBSCO⁹ and abstracted and indexed by Scopus and Clarivate. The published survey data and data paper carry with them persistent digital identifiers namely the DOI, ORCID, and ROR ID.

Now that the analysis of the survey data has been carried out, it awaits publication as a conference paper in the GLP Collection housed in the GreyGuide Repository¹⁰. It will be further compiled in the publication of the GL2022 Conference Proceedings¹¹, and is further eligible for republication in a thematic issue of *The Grey Journal*. The video presentation of the conference paper will also be published in the TIB AV Portal¹².

The survey data and accompanying data paper, the analysis of the survey data in the conference paper, and its video presentation each carry a separate but interoperable DOI. And, it is in this way that the survey data remain FAIR and open to citation, referencing, and reuse.

Concluding Observations

It is important to note how prompt the organizations responded and with such foresight and concern for the accuracy in reporting on the War in Ukraine. The responses dealt with both the immediate consideration of housing for the millions of refugees fleeing Ukraine and for needed supplies, as well as considerations related to more lasting challenges in providing educational support for students and researchers and in dealing with the effects the war will have on world food shortages.

The survey provided an increase not only in GreyNet's digital content but also in new contacts. The fact that 74% of the respondents' organizations already appeared published in the International Directory of Organizations in Grey Literature (IDGL) confirmed that this resource was a determining factor in the survey population. The digital and product identifiers gained by the survey help in establishing the validity and reliability of the data collected. They demonstrate FAIR data principles in that they not only increase findability and ensure accessibility, but they also enable interoperability via the persistent identifiers and thus contribute in building the PID Graph¹³ for further use in research and training.

Perhaps one of the most evident of observations is the presence of persistent and product identifiers in the trail of GreyNet's digital publications both in textual and non-textual formats. This provides an example of grey literature digital publishing, whereby the War in Ukraine served as a use case.

Linked References

- ¹ <https://greynet.org/internationaldirectory.html>
- ² <https://doi.org/10.26069/greynet-2022-000.482-gg>
- ³ <https://www.greynet.org/thegreyjournal/currentissue.html>
- ⁴ <https://ror.org/01pfxj80>
- ⁵ <https://www.go-fair.org/fair-principles/>
- ⁶ <https://surveymonkey.com/>
- ⁷ <https://doi.org/10.17026/dans-zhs-fewk>
- ⁸ <https://easy.dans.knaw.nl/ui/datasets/id/easy-dataset:254710/tab/2>
- ⁹ <https://www.ebsco.com/products/research-databases/library-information-science-technology-abstracts-full-text>
- ¹⁰ <http://greyguiderep.isti.cnr.it/listtitoligl.php?authority=GreyGuide&collection=GLP&langver=en&RighePag=100>
- ¹¹ <http://greyguide.isti.cnr.it/index.php/greyguideportal/document-share/gl-proceedings-1993>
- ¹² <https://av.tib.eu/publisher/GreyNet%20International>
- ¹³ <https://www.sciencedirect.com/science/article/pii/S2666389920302440>