

Scholarly Communication Policy

Centre for Science and Technology Studies (CWTS)

Faculty of Social and Behavioural Sciences, Leiden University

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1. Goals of the Policy

The CWTS Scholarly Communication Policy (henceforth: the Policy) is a framework that informs scholarly communication practices in the Centre for Science and Technology Studies (CWTS) at Leiden University, with a special focus on practices related to scholarly publishing. The first version of the Policy was developed via a co-creation process with CWTS researchers between December 2024 and January 2026 and approved by the CWTS Board on 5 February 2026. It will be reviewed on an annual basis to ensure its continued accuracy and relevance.

The Policy is based on the mission of CWTS, namely to improve how science is practiced and governed and how it serves society. This involves the need to understand the dynamics of scientific work, to intervene on the basis of solid evidence, and to incorporate these insights into our own work practices. In line with this outlook, we base our choice of scholarly communication formats and channels on the audiences we want to reach and on the objectives we want to achieve by sharing research and other outputs.

Guided by our mission to improve how science is practiced and governed, **the primary goal of the Policy is to increasingly publish our work through open, community-governed channels that contribute to a scholarly communication system in which researchers, universities, and other academic or public actors – rather than commercial or revenue-driven entities – govern how knowledge is shared**, promoting collective stewardship of the knowledge production process.

We aim to ensure that the limited financial resources we have available at CWTS and at Leiden University more broadly are used to support this goal in the best possible way. Therefore, **a secondary goal of the Policy is to allocate financial resources to publication channels for which the costs are proportionate to the benefits we as a community receive from them, and to increasingly shift this allocation towards publication channels that meet our standards for openness and community governance.**

To realize our goals, CWTS makes the following commitments:

- We will spend our (modest) internal budget for scholarly publishing in accordance with the above goals.
- We will request the Faculty of Social and Behavioural Sciences (FSW) to spend its collection budget in accordance with the above goals. This will require coordination between the institutes in the faculty as well as coordination with the other faculties of Leiden University and with the university library.
- When we use the budget of a project to cover the cost of scholarly publishing, we will spend this budget in accordance with the above goals.

- We will advocate for a shift towards open community-governed publication channels in the field of science studies.

The Policy provides recommendations and guidelines that enable us to align our scholarly communication practices with the above goals. It is intended to inspire concrete action to prioritize and strengthen community-governed forms of publishing, both within the institute and beyond.

2. Scope of the Policy

The Policy applies to all outputs – including but not limited to research articles published on preprint servers or in journals, books and book chapters, datasets, research software, blog posts, reports, newspaper articles, podcasts, and multimedia interventions – on which individuals present CWTS as their affiliation. The Policy does not apply to outputs resulting from commissioned projects in which it has been agreed with the client that outputs will be handled in a more restricted fashion.

The Policy is an elaboration of the Strategic Publication Framework of Leiden University¹ (2025) and implements elements of the Research Data Policy and Protocol of the Faculty of Social and Behavioural Sciences² at Leiden University (2024). The Policy supersedes the previous CWTS Open Science Policy (2020).

3. Elements of the Policy

The Policy provides recommendations and guidelines CWTS researchers are expected to consider in our scholarly communication practices, be it at the individual, project, or team level. The types of outputs covered in the Policy, as well as the corresponding set of considerations around which the Policy is built (audience & function; openness & community; costing), are based on an initial scoping carried out together with the CWTS community and higher-level commitments contained within the CWTS Knowledge Agenda (2023-2028)³ and were further expanded and refined over the course of the co-creation process.⁴

¹ Thinktank Open Scientific Publishing. 2025. Strategic Publication Framework of Leiden University. Leiden University. <https://www.library.universiteitleiden.nl/binaries/content/assets/ul2ub/research--publish/cds/leiden-university-strategic-publication-framework.pdf>

² Richard, Céline J. E., Andrew S. Hoffman, Katie Hudson, et al. 2024. 2024 Research Data Policy and Protocol, Faculty of Social and Behavioural Sciences, Leiden University. Zenodo. <https://zenodo.org/records/12654228>

³ de Rijcke, Sarah, Ludo Waltman, and Ed Noyons. 2023. Introducing the CWTS Knowledge Agenda 2023-2028. Leiden Madtrics. <https://www.leidenmadtrics.nl/articles/introducing-the-cwts-knowledge-agenda-2023-2028>

⁴ The bulk of the Policy text has been written by three individual authors (WK, ASH, LW), who were tasked with developing a set of recommendations and guidelines that channel a combination of higher-level commitments of CWTS and the outcomes of the co-creation process undertaken for developing this specific policy, with the additional expectation that the outcome be aligned with a framework provided by Leiden University. We have also sought to reconcile existing practices and needs with a more progressive vision for scholarly communication

When mentioning specific recommended resources, hyperlinks to these are provided in the main body of the Policy. The full list of referenced resources and their URLs is also included in [Appendix 1](#). N.B. This list is indicative and has no pretensions to be exhaustive.

Making choices about our scholarly communication practices sometimes reveals frictions, pitting one consideration against another – for example, reaching certain audiences may require trading off considerations of openness and accessibility. The Policy aims to provide actionable pathways for navigating such dilemmas, based on communal deliberation within CWTS.

4. Recommendations and guidelines

Recommendations and guidelines are organized around three high-level considerations: audience & function, openness & community, and costing.

4.1 Audience & function

Most of our activities at CWTS combine research and intervention missions, which means it is equally important to reach academic audiences as well as wider publics, including in civil society, science policy, and higher education. Reaching these diverse audiences may require different communication approaches and output formats.

To take part in debates within an academic community generally requires us to publish arguments and findings in the form of research articles (circulated through preprint servers or in journals), book chapters, or monographs. In addition to this, interim and final findings are also often presented at conferences, seminars, and other academic gatherings, with slides. Each of these formats presents very different affordances in regard to openness and timeliness, which are mediated in part by the underlying business models for academic publishing venues, regardless of output type. This is discussed in further detail in sections [§4.2](#) and [§4.3](#) below.

To engage civil society, science policy or education sector stakeholders more directly, important publication formats include blog posts, policy briefs, newspaper articles, online videos, audio recordings, infographics or reports. Such publication types can be very useful for shaping the public perception of topics relevant to the CWTS Knowledge Agenda as well as for positioning ourselves as public

going forward. We acknowledge that this has resulted in a fragmented and sometimes awkward authorial voice – signaled for instance by the mix of pronouns employed throughout ('we', 'you', 'CWTS researchers', etc.) – but we do not expect that this will impede the actionability of the recommendations contained herein.

intellectuals (thereby facilitating, for example, future interventions). Especially for such non-academic publications, we should consider what language of publication is most useful to achieve the type of dialogue or engagement we are aiming for.

In sharing our work such that it contributes to debates among academic or other societal audiences, we will likely present interim and final findings at conferences, seminars, workshops, etc. We may also host workshops or other time-bound activities yourself, which stand on their own as bona fide outputs of our work. In either case, this will often entail creating slide decks, reports, audiovisual materials, or other ('non-traditional') output formats that aim to capture what occurred during these otherwise ephemeral events. We should also consider how best to share these materials with our audience using more durable channels than, for instance, simply sharing a slide deck with workshop attendees via email. Further recommendations are given in section §4.2.

Finally, regardless of publication/output type, the venue in which it is published, or the audience(s) we aim to reach, there are additional steps we can take once the work has been published that create greater visibility for and engagement with our work. We encourage advertising outputs via personal networks, relevant mailing lists and social media – for instance, by posting a short summary with a link to the published material, and tagging any relevant colleagues who might help to further amplify our post. The CWTS Communications Team can also help broadcast our work via CWTS's own social media accounts; we can request their support by posting a message in the 'Communications' channel in the CWTS Microsoft Teams instance, making sure to include all relevant details/links they will need. Open peer review, as discussed in the next section, can also play a role here, as it may multiply the interactions with potential audiences.

4.1.1 Research data, software, and code

For archiving and publishing research data/software/code, there are separate considerations regarding audience. We can, on one hand, treat these artifacts as supplementary material that supports a particular empirical analysis/argument we have made elsewhere, for instance in a preprint, journal article, or book chapter. In this way, the data underlying our analysis can give our readers a more granular view of the phenomena of interest and can provide greater context for the assertions or arguments we have made, perhaps beyond what we have been able to state in the associated scholarly output due to strict journal word count policies or other limitations. Publishing the software and code we have used can similarly give readers insight into how we have processed our data for the analysis.

On the other hand, datasets and software we develop during our research can also be treated as significant research outputs in their own right. In this case, while a given corpus of research data may also provide the underlying empirical basis for a

specific scholarly output we have produced (for example, a preprint, journal article, or book chapter), we may have reason to believe that these same data will be valuable for reuse by others, whether this be fellow researchers or stakeholders more distal to the research world (for example, community/societal organizations, policymakers, etc.). The same is true for research software, which we may have developed specifically for one project, but which we or others might reuse or build upon further. How, and by whom, we envision these artifacts being reused will likely inform where we archive/publish them, the type of license we apply to them, their level of accessibility, the types of supporting documentation/information we include, and even the language we use when creating these materials.

If conducting and publishing research using quantitative methods, we should consider that audiences may be especially interested in technical and methodological aspects related to reproducibility – which requires its own strategies for engaging. In the context of publishing quantitative research or mixed-methods research with a quantitative component – be it in the format of journal articles, books/book chapters, or preprints – we are expected to create a ‘Publication Package’ for each such publication. This expectation follows from [national guidelines](#)⁵ for data archiving in the social and behavioural sciences, and the CWTS Data Management Policy provides additional instructions on how to assemble a Publication Package [see [Appendix 2](#)]. Responsibility for archiving and publishing data associated with a specific empirical publication/output typically lies with the leading contributor or corresponding author of that work; where we as a CWTS researcher are involved as co-author, we are nevertheless encouraged to verify that the data are shared in a way that befits the spirit of the national archiving guidelines and of this Policy (see footnote 5).

When publishing a journal article, preprint, book chapter, or other empirical output, we should clearly indicate what data/software/code were used in the analysis, where they have been archived, and how they can be accessed; this guideline applies regardless of the methods (e.g., qualitative, quantitative, mixed-methods) or data types that we have used in our analysis. If data/software/code have been published elsewhere, including as part of a Publication Package, any relevant links and/or persistent identifiers (e.g., DOI) that have been issued for them should be included in the publication, both in a Data and Code Availability Statement in the back matter of the publication, and as a formal citation in the reference list. Moreover, many preprint servers and generalist repositories also provide submitters the option of adding qualified references to related materials, including for datasets and code, directly in the publication’s metadata. For instance, if publishing an article on Zenodo, we

⁵ DSW Committee Scientific Integrity, Data Storage and Reproducibility. 2022. “Guidelines for the Archiving of Academic Research for Faculties of Behavioural and Social Sciences in the Netherlands.” Committee Scientific Integrity, Data Storage and Reproducibility. <https://doi.org/10.5281/zenodo.7583831>.

should include the DOIs of associated files, and should also specify what the relation is between our article and those other materials (e.g., a DOI for the underlying data.)

4.2 Openness & community

As outlined in section [§1](#), in making publishing choices, we should prioritize publishing models that facilitate openness of research and that foreground community-driven forms of governance, that is, forms of publishing in which researchers, academic institutions, university librarians, and other stakeholders in the academic community – rather than commercial publishers and other revenue-driven actors – have meaningful control over how publishing is organized. Commercial or revenue-driven actors can play a significant supporting role, but only insofar as academic communities and their institutions retain control over key decisions and the overall governance structure.

4.2.1 Research articles

In line with our commitment to openness, all research articles we publish in our capacity as a CWTS researcher must be made openly accessible. We should publish our research under an open license, ideally CC BY, unless there are specific reasons for choosing an alternative open license. While ‘non-commercial’ (NC) and ‘no derivatives’ (ND) variants of Creative Commons licenses may at first glance seem attractive, their use can introduce legal and practical complications - including constraints on reuse and interactions with publisher agreements that may undermine authors’ intended control over their work.⁶ To ensure research is disseminated in a timely fashion, delays in the publication of research articles should be minimized. Embargoes that delay the open accessibility of research articles are not acceptable.

This Policy distinguishes three pathways towards making our research articles openly accessible.

The first pathway is to publish research articles on preprint servers such as [arXiv](#), [bioRxiv](#), [medRxiv](#), [MetaArXiv](#), [PsyArXiv](#), [SocArXiv](#), or [Knowledge Commons](#). These preprint servers offer the advantage of rapid circulation and are governed by academic communities. Commercial preprint servers such as SSRN and Research Square lack community governance and should be avoided. Optionally, we can submit an article published on a preprint server to a platform for post-publication peer review (e.g., [MetaROR](#), [eLife](#)), or we can encourage colleagues to review our article on a platform for preprint peer review (e.g., [PREreview](#)). Another option is to submit articles to a platform that combines preprinting and peer review (e.g., [F1000Research](#), [Open Research Europe](#)).

⁶ Palmen, Heleen, and Erna Sattler. 2025. Impact on Ownership When Choosing an NC or ND Creative Commons Licence. Digital Scholarship@Leiden. <https://www.digitalscholarship.leiden.nl/articles/impact-on-ownership-when-choosing-an-nc-or-nd-cc-licence>

A second pathway is to publish open access (OA) in journals (diamond/gold/hybrid OA).⁷ Publishing research articles OA in journals satisfies the requirement of open accessibility of research and may offer a good way to reach certain audiences, but it may also have important downsides. Many journals are owned by commercial or revenue-driven publishers. Publishing in these journals reduces the ability of academic communities to govern the scholarly communication system. Before submitting an article to a journal, we should assess the extent to which the journal's OA publishing and business model is compatible with our emphasis on community-driven forms of governance, carefully weighing the benefits and disadvantages and taking into account further information about costing as discussed in section [§4.3](#) below.

A third pathway is to publish research articles behind a paywall in journals (closed access), while also depositing the article in an OA repository (green OA). Such a repository could be either a preprint server, a generalist repository, or the [Scholarly Publications](#) repository of Leiden University. Many journals have [policies](#) stating which versions of an article may or may not be deposited in this fashion. Often these policies do not allow depositing the version of an article accepted for publication in a journal (the so-called author accepted manuscript, or AAM), while they do allow depositing versions of an article prior to acceptance by the journal. In that case, we should deposit the original version of our article in a repository prior to submitting it to a journal. If we revise an article based on comments from reviewers and editors, we should also deposit the revised version in a repository prior to resubmission.

Traditional academic journals operate with a pre-publication peer review process that can significantly delay the publication of our work. To mitigate this delay, we are encouraged to combine submission to a journal with other forms of communication that allow circulating our research at intermediate stages. This enables others to benefit from our work as early as possible and allows us to benefit from feedback prior to journal-based peer review. Powerful ways to publish research at intermediate stages include preprinting as discussed above, and also pre-registration (that is, publishing a research plan before a study is carried out), modular publishing (that is, publishing a study in a modular step-by-step way on platforms such as [ResearchEquals](#), [Octopus](#) or [Research Catalogue](#)), and publishing intermediary materials in a generalist repository (e.g., [Zenodo](#), [OSF](#), [RIO Journal](#)).

If we want our work to be peer reviewed, open peer review is preferable over closed peer review. Open peer review, where review reports are made openly available,

⁷ **Diamond OA** is a model of scholarly publishing in which both readers and authors are free from charges. **Gold OA** is a publishing model in which articles are made openly available to all readers immediately upon publication, usually with the costs covered by article processing charges (APCs) paid by authors or their institutions. **Hybrid OA** is a publishing model where authors can choose to make individual articles openly available within an otherwise subscription-based journal by paying an APC.

makes the peer review process more transparent. In case of openness of reviewer identities, it can also lead to forms of constructive interaction that are not possible in traditional closed peer review formats. Open peer review is offered by publish-review-curate (PRC) platforms that combine preprinting and open post-publication peer review.⁸ Examples of such platforms are MetaROR, eLife, and Open Research Europe. Some journals also offer open peer review, but with the limitation that review reports are published only for accepted articles.

Another consideration is the metadata that preprint servers, journals, and other platforms make openly available for our research articles. As can be seen in the Crossref Participation Reports,⁹ journals operated by certain publishers, such as Elsevier and Springer Nature, do a poor job in terms of metadata availability, making articles in these journals more difficult to find by peers and potentially making these articles invisible in research analytics based on openly available metadata. Ensuring research articles have complete open metadata contributes to Leiden University's commitment to the Barcelona Declaration on Open Research Information.¹⁰

The three above-mentioned pathways towards making research articles openly accessible are focused on the dissemination and evaluation of articles. To guarantee the long-term preservation of articles, as employees of Leiden University we are also expected to deposit our articles in the Scholarly Publications repository of Leiden University.¹¹

4.2.2 Books and book chapters

We should aim to make our work in the form of books and book chapters openly accessible using an open license. There are two principal pathways for making books and book chapters openly accessible, with a third pathway for achieving limited accessibility.

A first option is through publishing books and book chapters OA. This often requires payment of a processing charge for the book or chapter (BPC/CPC). Such charges may be covered from research grants by external funders.¹² We may also draw on the (limited) processing charges budget of CWTS. More detailed information on the practicalities of covering such fees can be found in section §4.3.1. A growing number

⁸ Corker, Katherine S, Ludo Waltman, and Jonathon A Coates. 2024. Understanding the Publish-Review-Curate (PRC) Model of Scholarly Communication. MetaArXiv. <https://doi.org/10.31222/osf.io/h7swt>

⁹ Crossref Participation Reports. <https://www.crossref.org/members/prep/>

¹⁰ Barcelona Declaration on Open Research Information, Bianca Kramer, Cameron Neylon, and Ludo Waltman. 2024. Barcelona Declaration on Open Research Information. Zenodo. <https://doi.org/10.5281/zenodo.10958522>

¹¹ Scholarly Publications Leiden University. <https://scholarlypublications.universiteitleiden.nl/>

¹² BPCs and CPCs may be included in proposals for grant funding at most national and international funders. NWO also has a dedicated, albeit restricted, programme that covers BPCs retroactively, if such costs had not been foreseen in the initial grant. See: <https://www.nwo.nl/en/calls/open-access-books>

of scholar-led book publishers operate on structural, collective funding, and thus do not require payment of a BPC/CPC.

The second pathway, while uncommon, is through publication of books and book chapters on preprint servers. To do so requires that we first confirm with the volume editor(s), series editor(s) and/or publisher beforehand whether posting a full or partial preprint is allowed. If you act as volume or series editor yourself, you may have room to actively push for favorable conditions, for example, in terms of allowing publication on preprint servers.

The third pathway is via the institutional repository. For monographs or edited volumes, publishers often only allow for a part of the work (for example a chapter, or a limited number of pages) to be made accessible, often with an embargo and/or restricted read-only license. Individual book chapters, on the other hand, are considered 'short works for an academic audience', and must be uploaded to the institutional repository. They will then be made available under a Taverne license, six months after publication. Note that these regulations seem to conflict when you have authored more than one chapter in an edited volume. In this case, please consult the Leiden University Library's [Open Access desk](#) for tailored advice on how to proceed.

4.2.3 Research data

Prior to commencing new research, it is advised to consult with the CWTS Data Steward on drafting a Data Management Plan (DMP), which provides space to articulate the general strategy we will take to ensure that our research data and software/code is responsibly handled both during and after the study/project, including how to do so such that it can be published upon completion. Leiden University's DMP template is [available on Zenodo](#), and further details are provided in the CWTS Data Management Policy [see [Appendix 2](#)].

When archiving and publishing these artifacts, we should strive to make them as open and as 'FAIR' – findable, accessible, interoperable, and reusable – as possible.¹³ An important step to take here is publishing research data and related empirical materials in scholarly repositories that will mint a DOI or other PID for our artifacts, and which allow assigning them an appropriate license – ideally a [CC0](#) public domain dedication or a [CC BY](#) attribution license, unless there are specific reasons for choosing [an alternative license type](#).

In addition to archiving data in a repository, we may also consider publishing a data paper, a standalone narrative article which provides a detailed overview of a specific dataset, including how it has been assembled and how it can be reused. This is an

¹³ Wilkinson, Mark D., Michel Dumontier, IJsbrand Jan Aalbersberg, et al. 2016. The FAIR Guiding Principles for Scientific Data Management and Stewardship. *Scientific Data* 3(1). <https://doi.org/10.1038/sdata.2016.18>

additional way of bringing visibility to datasets in which we have invested considerable effort developing, and which may be of value to others in their own work. Data papers, and their pathways to openness, should be treated in the same way as articles are described in §4.2.1 above. Note here that there are a growing number of ‘data journals’ dedicated to publishing data papers, many of which are run by commercial and revenue-driven publishers, and that charge significant APCs. If publishing a data paper, we will consider doing so as a preprint or in a community-driven journal that does not charge APCs, such as the Research Data Journal for the Humanities and Social Sciences.

Regardless of whether we publish a data paper, published/archived research data should always be accompanied by sufficient documentation about how they have been collected/developed, how they can be reused, and where relevant, how they can be accessed; this holds equally true for materials which have been openly archived/published (e.g., under a CC license) as for those which require more ‘restricted’ handling (see below). At the individual level, properly documenting your materials is a valuable practice in that it preserves information that we may need at some future moment but will have perhaps forgotten, while in the context of team-based research, documentation also facilitates shared understanding of materials to which team members have access. Documentation can also give additional insight into how we have gone about arriving at the conclusions or claims you have made, and into the integrity of the research process more broadly. This is especially important in cases where we may be called upon to (re)substantiate the claims we have made in your scholarly outputs.¹⁴

If an embargo is necessary (e.g., in cases where there are ethical or commercial limitations on immediate sharing), we should make sure to clearly indicate the reason and duration for the embargo in the deposit’s README file, metadata, and/or other accompanying materials. If ethical or privacy concerns limit our ability to openly publish (parts of) our research data, we are still recommended to archive them in a scholarly repository under a restricted license, which facilitates findability and also exposes metadata about their contents; we are therefore also advised to ensure consent documents contain a provision about data archiving. When archiving under a restricted license, it is critical to include a Data Access Protocol (DAP) with our deposit that clearly states the conditions under which third parties can access the materials, and the README file and metadata of the deposit should indicate the DAP.

¹⁴ Archiving data, software, and code ensures that records of these artifacts are registered in the digital scholarly record. This may contribute to their reuse, including for the purposes of verifying, reproducing, and/or replicating a given analysis. It is worth noting here that the extent to which the full range of social science research methods are propitious to reproducibility or replicability is still very much an open question, as is their relevance and desirability within certain epistemic and disciplinary communities.

Recommended repositories include the [CWTS data repository](#) (a local branch of LUDaR, Leiden University's [DataverseNL repository](#)), the [CWTS Community on Zenodo](#) (a generalist repository), or a domain-specific [DANS Data Station](#) (a service of the Dutch national data archive, which has a collection specifically for the [social sciences and humanities](#)). These materials should be published under a [CC0](#) public domain dedication or a [CC-BY](#) attribution license, unless there are specific reasons for choosing an [alternative license type](#). Data repositories operated by commercial publishers, such as Figshare, Mendeley Data, and Digital Commons, should be avoided unless there is a specific reason why community-governed infrastructure is insufficient for publishing your research data. The CWTS Data Steward can provide us with advice about selecting the most appropriate repository for your dataset(s).

4.2.4 Research software/code

Depending on the environment in which we are doing our development, there are different workflows for publishing our research software/code in a repository. One workflow is via the [Research Software Directory](#) (RSD), which is maintained by the Netherlands eScience Center; Leiden University has [its own branch](#) of the RSD, which can help bring greater visibility to our software outputs. RSD will issue a DOI for our software and provide users with the ability to cite the different versioned releases. A second workflow is via [Software Heritage](#), which provides an [easy-to-use webform](#) that automatically ingests the contents of online repositories and archives them for long-term preservation.

Projects using GitHub are advised to enable [GitHub's integration with Zenodo](#), which streamlines the archiving of versioned GitHub repositories/releases on Zenodo. One advantage of archiving our software/code in this way is that Zenodo will mint a DOI for our artifacts, which GitHub does not support on its own; this makes them more visible in the digital scholarly record, improving their findability by others, and providing a persistent identifier which can be referenced/cited when someone reuses your code. Another advantage of doing so is that Zenodo confers a guarantee of long-term preservation for our artifacts in a way that GitHub does not. While a very useful (and thus widely used) tool, GitHub is a subsidiary of Microsoft and is thus subject to the whims of a commercial enterprise. Zenodo, on the other the hand, is maintained by CERN, a large European research organization, which receives structural financial and community support from the European Union and other international organizations.

Regardless of where we choose to publish your software/code, we should do so under an [MIT](#) or [Apache 2.0](#) license, unless there are specific reasons for choosing an [alternative license type](#).

There are many other options when it comes to publishing research data and software/code, but we should be aware of the underlying business and governance model of the repository we select, as it may not align with CWTS's values and may also impact the long-term availability of your materials. We should also be mindful about using open-source software/tools and publishing non-proprietary data formats to minimize barriers to their (re)use. We are always invited to consult with the CWTS Data Steward, who can provide additional advice on these matters.

4.2.5 Other outputs

For other academic outputs, including those capturing what occurred during otherwise ephemeral events, as well as for non-academic publishing formats aimed at a broader audience, there are different considerations around openness & community. When sharing the outcomes of time-bound activities such as a workshop or exhibition (e.g., slide decks, reports, zines, audiovisual materials, or other 'non-traditional' output formats), we should consider the affordances of the publishing venue vis-a-vis the audiences we wish to reach; a community-governed generalist repository like Zenodo or Knowledge Commons may be suitable for text-based materials, while a portfolio tool like Research Catalogue is better suited for sharing audiovisual materials. If we opt for a blog post, we should choose a publishing venue that maximizes the chances of reaching our target audience(s), and ensure that the language (e.g., English, Dutch, etc.) and tone (language level, jargon, etc.) are accessible to your prospective readers. Blog posts typically give a degree of control over the publication date (but not always), thus allowing us to time its release with its intended function (for example, to draw attention to an initiative, serve as preparation for a grant application, etc.). Letters/commentaries on news platforms and newspapers on the other hand are often subject to the logic of news cycles, requiring us to synchronize our writing with those cycles and anticipate suitable publication dates. Before circulating non-academic publications, we may consult with the CWTS Communications Team for further advice and support.

4.2.6 Accessibility for audiences with disabilities

An often overlooked element in scholarly communications is accessibility of research outputs for people with disabilities. When relying on certain external parties such as publishers to share our work, we may have little influence over how accessible our (digital) research articles or other outputs are for people with disabilities. However, there are still practical steps we can take as individual researchers to make our publications and outputs accessible for a variety of audiences, starting with this seven-point checklist for accessible deposits of slide presentations (first part) and documents (second part).¹⁵

¹⁵ Ferguson, Kim. 2025. Accessibility Guidelines for Deposits. Zenodo. <https://zenodo.org/records/17764359>

4.3 Costing

There are a variety of business models for scholarly communication platforms. Some platforms are sustained through financial contributions from research funders and research institutions, often combined with researchers donating their time by working as volunteers for these platforms. This model is for instance adopted by many preprint servers and diamond OA journals. Other platforms charge fees to their users. Subscription-based journals for instance charge subscription fees to their readers, while APC-based OA journals charge fees to their authors, and hybrid journals charge both.

When choosing a publication channel for your work, we should ensure that the costs are proportionate to the benefits. This means, for example, that paying an expensive APC to a journal that rejects over 90% of all submissions based on a time-consuming non-transparent peer review process is questionable.

4.3.1 Research articles, book chapters and monographs

As discussed in section [§4.2.1](#), there are different pathways to making research articles, books, and book chapters openly accessible. This includes publishing research on preprint servers or in diamond OA journals/books, or publishing research in paywalled journals/books and making a version of it openly accessible in an institutional or preprint repository. These pathways do not result in any direct costs for researchers, or for CWTS or Leiden University, although CWTS and Leiden University do need to reflect on their responsibility to contribute to the financial sustainability of preprint servers and diamond OA publication channels.

Another pathway is OA publication of research articles in journals or with book publishers that charge processing fees (APCs/BPCs/CPCs). This pathway does result in costs for researchers, or for CWTS or Leiden University. When we decide to publish research in a journal or with a book publisher that charges fees to make the research openly accessible, there are three main options for covering the fees.

The first and most preferable option is to cover the fees by project funding, if available and compatible with the conditions of the respective funding body. Where relevant, researchers are advised to first consult with a project leader prior to submitting their article to ensure sufficient funds are available from the project grant. Second, for research articles specifically, if no such dedicated funding is available, we can make use of [agreements](#) between Leiden University and various publishers, so-called Read & Publish (R&P) deals. The [Leiden University Journal Browser](#) provides an overview of eligible journals which are covered by these deals. While this means that APC costs for individual articles are covered by the collective through university budgets, doing so may come at the cost of perpetuating currently dominant business models of commercial or revenue-driven publishers that work

against the goal of establishing a community-governed scholarly communication system. Third, CWTS also has a limited internal budget earmarked for covering publishing fees (APC/BPC/CPC) and can consider contributing up to €1200 per publication towards such fees. Researchers interested in making use of this option need to submit a formal request to the Director of Research and the Institute Manager Finance. In allocating these limited funds, we will aim to prioritize early career colleagues as well as putting these funds towards community-governed venues, while accounting for the fact that this will still need to be done on a first come first served basis.

In the case of the last option, when a publication is co-authored with collaborators from other institutions, each institution is expected to pay its fair share of the processing charges (although exceptions can be made where co-authors do not have access to the necessary resources). In general, this means that CWTS should pay in proportion to the number of authors from CWTS. For instance, if an article has five authors of which three are from CWTS, CWTS should pay 60% of the APC (with a maximum of €1200 per publication). CWTS does not use its internal budget to pay APCs for OA publishing in hybrid journals.

4.3.2 Other outputs

For non-academic publishing formats aimed at a broader audience, it is equally important to consider the implications of underlying business models for accessibility. We strongly encourage the use of publication venues that do not involve paywalls, such as blogs and news platforms that do not charge access/subscription fees to readers. We should consider making use of communication channels supported by CWTS and Leiden University, including the *Leiden Madtrics* blog and *The Conversation*, an international not-for-profit platform providing research-based news and analysis, with whom Leiden University has a partnership. On the other hand, most newspapers and (web) magazines are subscription-based, which will often limit the audiences you will reach when publishing in these venues. If we are (co-)author of a newspaper or magazine article based on our academic work, and that article would otherwise be behind a paywall, we can create a 'green' OA version of this output by submitting it to the Scholarly Publications repository of Leiden University. We can, for example, submit a PDF created from the original Web-based document, or an unformatted version containing the original text, as published, with appropriate attribution.

Insofar as sharing research data (broadly defined) and software/code, costs should not be of immediate concern for the researcher. For archiving such materials after our publication or project is completed, Leiden University provides employees with access to data repository and archiving services (per the recommendations in [§4.2.2](#) above), which, under most circumstances, entail no direct charges to the researcher. In addition, there are myriad other generalist repositories that are also available at no

cost to you (e.g., Zenodo, OSF). However, if we anticipate that our project will be collecting >2TB of data, and/or will ultimately need to archive datasets >50GB, we should consider this even during the proposal-writing phase, and consult with the CWTS Data Steward as early as possible. This will help ensure our project budget sufficiently accounts for such storage/archiving needs, as these may exceed what the university is capable of offering.

5. Outlook: trade-offs in scholarly communication and collective agency

This policy provides recommendations and guidelines that we are expected to take into account in our scholarly communication practices, and specifically in the way we publish our research. These recommendations and guidelines prioritize open and community-governed forms of scholarly publishing. The recommendations and guidelines are organized around three high-level considerations:

- **Audience & function:** We publish our work in ways that enable us to reach and meaningfully engage with the relevant audiences.
- **Openness & community:** We publish our work in an open and timely manner, prioritizing publication channels governed by academic communities.
- **Costing:** We aim to allocate financial resources to publication channels for which the costs are proportionate to the benefits and that support open, community-governed forms of publishing.

We recognize that these considerations can sometimes come into tension and that their implications may differ depending on one's career stage, discipline, or other circumstances. For instance, although we encourage the use of community-governed publication channels for sharing research outputs, prestigious commercially operated channels may at times offer better visibility among the audiences we are trying to reach.

Through this Policy and the collaborative process that informed it, we aim to make such tensions explicit and to provide constructive ways of navigating them. By prioritizing open, community-governed forms of publishing, we aim to contribute to a transformation of the scholarly communication system in which these tensions will become less pronounced.

Finally, we also acknowledge that this Policy does not account for all publication formats and output types equally, and some are altogether absent (e.g., open educational resources). Moreover, certain recommendations regarding the use of specific scholarly communication infrastructure that appear in the Policy may also need to be revised in light of the changing landscape. It is for this reason that the

Policy will be revisited on an annual basis to ensure its continued alignment with the CWTS Knowledge Agenda, other relevant policies, and current good practice.

6. Core recommendations

#	Recommendation	Rationale	How to follow the recommendation	Policy §
1.	Make publishing choices that maximize the uptake of your work by the specific audience(s) you wish to reach or influence.	<p>Publishing should be a means to create engagement with and impact among particular audiences.</p> <p>Publishing outputs other than articles, books, and book chapters enables wider recognition for diverse publication formats and their impact.</p>	<p>Identify your target audience(s) up-front</p> <p>Assess the most suitable output type and publication venue for reaching them</p> <p>Adapt the tone and language of your output accordingly</p>	§4.1
2.	Publish your research on preprint servers and/or in journals/with book publishers that facilitate immediate open accessibility and foreground community-driven forms of governance.	<p>These publishing practices are in line with our goal of prioritizing openness and community-governed forms of publishing. Following these guidelines helps us to avoid relying on commercial or revenue-driven actors, gives greater control over the publication process, and reduces barriers to accessibility.</p>	<p>Preprinting:</p> <ul style="list-style-type: none"> - Use preprint servers such as arXiv, bioRxiv, medRxiv, MetaArXiv, PsyArXiv, SocArXiv, HCommons/Knowledge Commons, and Zenodo - Avoid publishing on commercial or revenue-driven preprint servers such as SSRN and Research Square <p>Journals:</p>	<p>§4.2.1</p> <p>§4.3</p>

			<p>- Prior to submitting an article, check the business and publishing model of a publication venue to assess the extent to which it is compatible with our emphasis on community-driven forms of governance</p> <p>PRC:</p> <p>- Open peer review is offered by publish-review-curate (PRC) platforms that combine preprinting and open post-publication peer review. Examples of such platforms are MetaROR, eLife, and Open Research Europe</p>	
3.	Share outputs other than research articles in venues that facilitate immediate free and open accessibility.	<p>Creates visibility for your work beyond what standard publication formats and channels afford.</p> <p>Supports transparency about the research process.</p> <p>Enhances findability, reuse, and referencing of interim findings, supporting materials, research data, and research software outputs.</p>	<p>Interim findings, supporting materials, and documentation of time-bound events/activities:</p> <p>- Use generalist repositories and/or modular publishing platforms such as Zenodo, OSF, Knowledge Commons, and ResearchEquals</p> <p>- If given the option, opt to mint a DOI or other persistent identifier for each upload</p> <p>- Be diligent when adding metadata for your outputs, ensuring to link related materials and to describe the nature of those links/relationships</p> <p>Research data:</p>	<p><u>§4.2.2</u></p> <p><u>§4.2.3</u></p> <p><u>§4.2.4</u></p> <p><u>§4.3.2</u></p>

			<ul style="list-style-type: none"> - Archive/publish data in scholarly research data repositories such as the CWTS DataverseNL repository, the CWTS Community on Zenodo, or DANS Data Stations - Avoid using repositories hosted by commercial or revenue-driven entities, unless they provide a service not offered by the former <p>Research software/code:</p> <ul style="list-style-type: none"> - Publish your software/code libraries on the Research Software Directory, Software Heritage and, where relevant, archive GitHub releases on Zenodo <p>Research publications in subscription-based newspapers and magazines:</p> <ul style="list-style-type: none"> - Submit to the Leiden Scholarly Publications repository - Can be submitted either as a PDF created from the original Web-based document, or an unformatted version containing the original text, as published, with appropriate attribution 	
4.	Select a suitable Creative Commons license for your published work.	Creative Commons licenses allow for reuse, adaptation, and redistribution, increasing the	Regardless of the publishing venue, publish your outputs using a Creative Commons license, ideally CC BY, which 'enables reusers to distribute, remix, adapt, and build upon the	<u>§4.2.1</u>

		visibility and impact of publications.	material in any medium or format, so long as attribution is given to the creator.' 'Non-commercial' (NC) and 'no derivatives' (ND) variants of CC BY licenses should normally be avoided. They may introduce legal and practical complications that undermine authors' intended control over their work. ¹⁶	
5.	When publishing research in a journal or with a book publisher that charges publishing fees (APC/BPC/CPC) to make the research openly accessible, consider three main options for covering the fees (listed in order of preference).	(A) Reduces the current structural reliance on established ties with larger commercial or revenue-driven publishers through R&P deals and avoids strain on CWTS budget.	(A) Use project funding to cover the fees - Pre-award: Consider your publication and scholarly communication strategy during proposal-writing, at which point you can determine what APCs/BPCs/CPCs you may foresee based on that strategy and account for any such costs in your project budget - Pre-submission: Prior to submitting your publication to a venue that charges fees, verify that sufficient funds are available from the project grant to cover these fees	§4.3.1
		(B) R&P deals are negotiated with larger publishers by library management and provide researchers the ability to publish OA without having to pay APCs that would otherwise be charged. While conferring financial advantages to researchers, making use of R&P deals	(B) For research articles: Make use of available R&P deals - Use the Leiden University Journal Browser to determine the journals that are included in R&P deals to which Leiden University is a party, and the APC discount available to Leiden-affiliated researchers via these deals	

¹⁶ For more specific advice, consult the Copyright Information Office. <https://www.library.universiteitleiden.nl/researchers/copyright-information-office>

		<p>perpetuates reliance on larger commercial or revenue-driven publishers and thereby undermines the ability of academic communities to govern the scholarly communication system.</p>		
		<p>(C) The internal budget of CWTS makes available a limited sum per annum to cover APC/BPC/CPC payments for CWTS researchers. Given the relatively small amount of this budget, and relatively high costs of most processing fees, this is the least reliable source of funding.</p>	<p>(C) Request use of the CWTS processing charges budget - Submit a written request and justification to the Director of Research and the Institute Manager Finance who will evaluate the request.</p>	

Appendices

Appendix 1. Hyperlinked resources

General information		
General Open Access Information	Open Access - Leiden University Library	https://www.library.universiteitleiden.nl/researchers/open-access/
Open Access Policies	Open Policy Finder	https://openpolicyfinder.jisc.ac.uk/
Accessibility for people with disabilities	Accessibility Guidelines for Deposits (Kim Ferguson)	https://doi.org/10.5281/zenodo.17764358

Research articles		
Financing APCs	Agreements with publishers - Leiden University Library	https://www.library.universiteitleiden.nl/researchers/open-access/agreements-with-publishers
	Journal Browser - Leiden University	https://library.wur.nl/WebQuery/ulbrowser?title=*
Preprint servers	Zenodo	https://zenodo.org/
	ArXiv	https://arxiv.org/
	bioRxiv	https://www.biorxiv.org/
	MetaArXiv	https://osf.io/preprints/metaarxiv/discover
	PsyArXiv	https://osf.io/preprints/psyarxiv
	SocArXiv	https://osf.io/preprints/socarxiv
	medRxiv	https://www.medrxiv.org/
Preprinting ± Peer Review Platforms	Knowledge Commons	https://hcommons.org/
	PREreview	https://prereview.org/

Publish - Review - Curate (PRC) Platforms	Open Research Europe	https://open-research-europe.ec.europa.eu/
	eLife	https://elifesciences.org/
	MetaROR	https://metaror.org/
	F1000Research	https://f1000research.com/
Institutional Repository	Scholarly Publications - Leiden University	https://scholarlypublications.universiteit.leiden.nl/
Generalist Repositories	RIO Journal - Research Ideas and Outcomes	https://riojournal.com/
	Zenodo	https://zenodo.org/
	OSF	https://osf.io/

Data		
Data Management Planning	Leiden University Data Management Plan Template	https://doi.org/10.5281/zenodo.3903267
Licenses & Access Protocols	Creative Commons Licenses - Overview of CC license types	https://creativecommons.org/share-your-work/licenses/
	Attribution 4.0 International - Creative Commons	https://creativecommons.org/licenses/by/4.0/
	CC0 1.0 Universal - Creative Commons	https://creativecommons.org/publicdomain/zero/1.0/
	Data Access Protocol Template	https://doi.org/10.5281/zenodo.10887571
Repositories, Archiving & Publishing Resources	DataverseNL - Centre for Science and Technology Studies (CWTS)	https://dataverse.nl/dataverse/leidencwts
	Leiden University Data Repository (LUDaR) - DataverseNL	https://dataverse.nl/dataverse/leidenuniversity

	Zenodo Community - Centre for Science and Technology Studies (CWTS)	https://zenodo.org/communities/cwts/
	DANS Data Stations	https://dans.knaw.nl/en/data-stations/
	DANS Data Station - Social Sciences and Humanities	https://dans.knaw.nl/en/social-sciences-and-humanities/
	Research Data Journal for the Humanities and Social Sciences	https://researchdatajournal.org/about

Software		
Licenses	Approved licenses - Open Source Initiative	https://opensource.org/licenses
	Apache License, Version 2.0, Apache Software Foundation	https://opensource.org/license/mit
	The MIT License	https://opensource.org/license/mit
Archiving resources	Research Software Directory - Leiden University	https://research-software-directory.org/organisations/leiden-university
	Archiving software on GitHub - Zenodo Documentation	https://help.zenodo.org/docs/github/archive-software/
	Software Heritage - Overview of saving reference research software	https://www.softwareheritage.org/save-reference-research-software/
	Software Heritage - Submit origin save request	https://archive.softwareheritage.org/save/

Books		
Open Access Book Publishers	Diamond Open Access Book Publishers List	https://www.library.universiteitleiden.nl/researchers/open-access/agreements-with-publishers
Financing BPCs	Open Access Books - NWO Calls	https://www.nwo.nl/en/calls/open-access-books

Other outputs		
CWTS / Leiden University-supported channels	The Conversation - Leiden University	https://theconversation.com/institutions/leiden-university
	Leiden Madtrics	https://www.leidenmadtrics.nl/
Institutional Repository	Scholarly Publications - Leiden University	https://scholarlypublications.universiteit-leiden.nl/
Generalist repositories	Zenodo	https://zenodo.org/
	Knowledge Commons	https://hcommons.org/
	Research Catalogue	https://www.researchcatalogue.net/

Appendix 2. CWTS research data management guidelines

September 15, 2020

Prepared by Josephine Bergmans, Thomas Franssen, Nees Jan van Eck (coordinator), and Thed van Leeuwen

1. Introduction

This document presents the CWTS research data management guidelines. These guidelines can be seen as part of a broader effort to build trust in scholarship, by increasing reliability, validity, and reproducibility, as well as to promote academic integrity. Good data management is important for:

- Making research data findable and accessible, also in the long term.
- Guaranteeing the safety and confidentiality of data.
- Ensuring the quality of research.
- Data re-use specifically and progression of research in general.
- Increasing the visibility and impact of research.
- Compliance with requirements from funders, institutions, and publishers.¹⁷

In line with the CWTS open science policy, the CWTS research data management guidelines enable researchers to make data openly available as much as possible. The guidelines also provide room for keeping data closed whenever necessary, for instance because of privacy or ownership issues.

2. General requirements and guidelines

CWTS follows the Data Management Regulations for Leiden University 2021¹⁸ and the Guideline for the archiving of academic research for faculties of Behavioural and Social Sciences in the Netherlands.¹⁹ The most important requirements and guidelines are:

- All research projects must have a data management plan before the start of the project.

¹⁷ See: <https://www.library.universiteitleiden.nl/researchers/data-management/rdm-checklist>

¹⁸ Leiden University. 2021. Data Management Regulations Leiden University 2021. Zenodo. <https://doi.org/10.5281/zenodo.5825356>.

¹⁹ DSW Committee Scientific Integrity, Data Storage and Reproducibility. 2022. Guideline for the Archiving of Academic Research for Faculties of Behavioural and Social Sciences in the Netherlands. Zenodo. <https://doi.org/10.5281/zenodo.7583831>.

- During a research project, data must be stored securely, which means that the integrity, availability and, if required, confidentiality of the data must be guaranteed.
- After a research project has been finished, data must be managed in such a way that data is findable, accessible, assessable, re-usable, and sustainable.
- Data used in publications must be archived for at least 10 years.

These requirements and guidelines apply to everyone at CWTS who conducts research that results in a publication. In addition to CWTS staff members, this includes PhD candidates, retired colleagues, and visiting researchers. If a CWTS staff member supervises a research master student, the guidelines apply as well. The guidelines do not apply to bachelor and one-year master students, unless their research results in a publication.

The CWTS research data management guidelines specify how the above-mentioned requirements and guidelines are implemented in the specific context of CWTS. In the CWTS research data management guidelines, a distinction is made between three phases of a research project: prior to the research, during the research, and after the research. Special attention is paid to the third phase. Guidelines are provided for archiving data, materials, and information that form the basis for publications. Archiving is done in so-called Publication Packages.

2.1 Prior to the research

Before starting a research project, or in the proposal writing phase, you need to think carefully about the data that you are going to collect and use in your project and how you are going to manage, store, and, if applicable, share this data. If your project will generate large amounts of data, this usually requires specific data management facilities. This is also the case if your project makes use of personal data or data that is otherwise sensitive in nature. Writing a data management plan (DMP) before your project starts will help you to think carefully about all relevant data management aspects. It will also help you to comply with the data management requirements of Leiden University, research funders (e.g., NWO and H2020), and publishers. Most externally funded research projects and PhD projects require writing a DMP before the start of the project. In the DMP, you need to discuss the data that will be used in a project and the way in which the data will be stored. You also need to discuss the extent to which you will be able to comply with the FAIR principles (findable, accessible, inter-operable, re-usable). The Leiden University template for DMPs can be found in Annex 4. In Annex 5, an example is provided of a data management plan for qualitative research. This example was obtained from the department of Cultural Anthropology and Developmental Sociology at Leiden University. The Centre for Digital Scholarship at Leiden University offers support in writing a DMP.

2.2 During the research

During a research project, research data must be safely preserved. This means that the integrity, availability, and confidentiality (if required) of the data must be

guaranteed. During ethnographic fieldwork, additional measures may be necessary to protect data using encryption software and passwords on laptops and external hard disks. You should make sure that all digital data you collect is systematically backed up. Non-digital data (notebooks, sensitive paper files) should be stored behind lock and key when not in use and should not be left unattended when in use. If these precautions are not possible during ethnographic fieldwork, you should explain this in your DMP. Research participants may sometimes rightfully claim both raw and processed data as their own. Decisions about data protection and sharing differ depending on the specific professional and ethical standards upheld at a particular moment in the evolving relationship between researcher, research participants, and audience. How to deal with data during ethnographic fieldwork should be discussed in your DMP.

Platforms and services for storing and sharing digital data in a safe way during a research project include:

- J-drive (research data): University network storage drive maintained by ISSC. Every night a backup is made.
- DataVerseNL: Online platform provided by DANS for storage, sharing, and registration of research data.
- SURFFileSender: Service provided by SURF for sending (large) files in a secure and encrypted way.

2.3 After the research

After a research project has been finished, the main results are usually disseminated in publications such as journal articles, conference papers, and book chapters. Following the guidelines of the faculties of Behavioural and Social Sciences in the Netherlands, CWTS researchers are requested to create a so-called *Publication Package* for each publication. Such a Publication Package must contain all information needed to validate the results presented in a publication, such as the raw data, the processed data, the documentation of qualitative data production processes, or the computer codes used to process and analyze the data. Elements that must be stored in a Publication Package are described in Annex 1. Publication Packages are not made publicly accessible.

Furthermore, following the CWTS open science policy, CWTS researchers are expected to make their data openly available as much as possible. An exception is made for data that cannot be made openly available, for instance because of privacy or ownership issues.

When and where must a Publication Package be stored?

Within one month after the publication of a manuscript, a Publication Package must be created. CWTS researchers are responsible for supplying the Publication Package or providing the necessary elements of the Publication Package to the CWTS data manager. The CWTS data manager is responsible for managing and archiving Publication Packages in a protected folder on the J-drive. Publication Packages will be stored for at least 10 years after the appearance of a publication.

Who is responsible for creating a Publication Package?

If the first author of a publication is affiliated with CWTS, this author, together with the CWTS data manager, is responsible for creating a Publication Package. If the first author is not affiliated with CWTS but other authors do have an affiliation with CWTS, these authors must make sure that the data is properly stored. If the first author is affiliated with a faculty of Behavioural and Social Sciences in the Netherlands, the other authors may assume that the first author will follow the guidelines of his or her institution and will create a Publication Package. The other authors then do not need to create a Publication Package. If the first author is not affiliated with a faculty of Behavioural and Social Sciences in the Netherlands, the authors affiliated with CWTS must make sure that a Publication Package is created, either by creating it themselves or by making sure that it is created by one of the other authors.

In the case of PhD candidates and research master students, supervisors are responsible for creating Publication Packages. Supervisors may delegate the execution of this task, but they carry the final responsibility.

Who has access to a Publication Package?

Only the CWTS data manager responsible for archiving and managing Publication Packages has access to the protected folder on the J-drive where Publication Packages are stored. To facilitate audits of Publication Packages, the CWTS Board of Directors and the FSW Faculty Board may grant reading access to specific individuals. They may for instance grant access to members of an academic integrity committee.

How to make data openly available?

Publication Packages are not made publicly available. To make data openly available, the use one of the following platforms and services is recommended:

- DataVerseNL: Online platform provided by DANS for storage, sharing, and registration of research data.
- EASY: Online archiving system provided by DANS for depositing and reusing research data. Example: <https://doi.org/10.17026/dans-xpt-2ues>.
- FigShare: Online open access repository supported by Digital Science where researchers can preserve and share their research outputs, including figures, datasets, images, and videos.
- Mendeley Data: Online data repository owned by Elsevier. Example: <https://doi.org/10.17632/5bxw69mzht.1>.
- Zenodo: Open access data repository developed under the European OpenAIRE program and operated by CERN. Example: <https://doi.org/10.5281/zenodo.3339177>.

3. Training, education, and support

At Leiden University, PhD candidates must write a DMP and must attend a course on how to write such a plan. Other researchers are encouraged to follow a data management training or workshop, for instance at the Centre for Digital Scholarship

at Leiden University. Relevant workshops offered by the Centre for Digital Scholarship include:

- How to write a data management plan
- Bring your own data
- How to publish your data

4. What must be stored in a Publication Package?

A Publication Package is intended to validate or replicate research. It is written in English. A Publication Package is not meant to share data for re-use. The following elements must be included in a Publication Package:

- The published (or accepted) manuscript, which includes a description of the problem definition, research design, conceptual framework, data collection, and the used methods.
- The instructions, procedures, design of the experiment, and stimulus materials (e.g. topic list, interview guide, questionnaires) that can be reasonably deemed necessary for validating or replicating the research. These materials must be available in the language in which the research was conducted.
- When using primary data, the raw data files (e.g., scientometric databases, recordings or transcripts of interviews, descriptions of observations, archive, and other source or media material). If the raw data files have been stored in an external archive (e.g., an archived version of a scientometric database), making a reference to the files in this archive is sufficient. Stored raw data must be anonymized so that it cannot be directly traced back to people or groups of people.
- The data files (either raw or processed) that were eventually analyzed when preparing the publication. This is not necessary if the raw data files were directly analyzed.
- Computer codes (e.g., SQL scripts, Atlas.ti, SPSS syntax, R codes) and brief descriptions of the steps taken to process the raw data into analysis data.
- Ethical approval from the Ethical Committee (if applicable).
- A readme file explaining which documents and files are included in the Publication Package and how they should be interpreted. The following information needs to be provided in the readme file:
 - For each document or file, the name of the person by whom the document or the file was created
 - Division of roles among authors, indicating at least who analyzed the data
 - Names of the people who collected the data
 - Date/period of data collection
 - If relevant: addresses of field locations where data was collected and of contact persons
 - Date on which the manuscript was accepted for publication, including a reference
 - Whether or not an ethical assessment was performed

Using the readme file, a fellow researcher must be able to validate or replicate the results reported in the publication.