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Using Digital Object Identifiers in Qualitative and Multi-Method Research and Beyond

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Citation is indispensable to social science. A citation points us to a location. As the places where we keep publications have changed, so should the way that we cite them. In years past, the primary way scholars consumed articles was in bound volumes organized chronologically on shelves. We found them (and helped others find them) by referencing the journal title, year, volume, issue, page numbers, author, and article title. Increasingly, even when a particular journal is also available in hard copy, scholars access articles as pdf or html files. This shift to online location has necessitated a change in how publications are made available to others, and how they are cited. We typically still include the old elements, but we add a crucial innovation: a persistent identifier. For articles, the persistent identifier used is a digital object identifier or DOI. DOIs have become crucial components of academic referencing and virtually all articles published in scholarly journals now have a DOI.

Qualitative and Multi-Method Research (QMMR) has been in production since 2003. During that time, it has regularly published substantive essays on a wide range of topics and questions, many of which have been well used across the section's diverse research traditions.¹ With this issue, *QMMR* has shifted to an all-digital format, and every article now includes a DOI, a string of characters starting with 10.5281.

With DOIs, we ensure that articles published in *QMMR* remain *accessible* in the long run, we make the

articles more *findable*, and their authors more likely to receive *credit* when their articles are viewed, downloaded, and cited. This short memo seeks to answer some questions about digital object identifiers and their implementation in *QMMR*.

What are DOIs good for?

The primary function of a DOI is to provide a stable link to a resource. Imagine you are a publisher of digital material; you know that many people use URLs to link to these materials. Now, suppose you need to change the URL for technical reasons (e.g., you rename your company and your homepage moves to a different domain). How will you let everyone know the new URL and make sure they change their links? This is a virtually impossible task and the reason that link rot—links that are no longer working—is such a problem, including in political science journals (Gertler and Bullock 2017).

DOIs are a *permanent* identifier for resources (i.e. the DOI of an article, as opposed to its URL, never changes) and work together with a set of “clearinghouses” for links, referred to as DOI registration agencies. Instead of linking directly to the publisher, you link to the DOI, e.g. <https://doi.org/10.5281/zenodo.938958>, which then resolves to the correct URL (<https://zenodo.org/record/938958> in this case). If the URL of the article changes, the publisher only needs to notify the registration agency, which redirects all DOI links to the new URL.

1 Google scholar, e.g., finds 20 formal citations to Ahmed and Sil's (2009) piece on multi-method research and 18 for Dunning's (2008) article on natural and field experiments. These numbers almost certainly understate the actual number of citations since *QMMR* (in part due to the lack of DOIs) is not well captured by Google Scholar and other citation indexes.

This central clearinghouse offers another, less well-known benefit of DOIs: together with URLs, registration agencies also store citation metadata (author, title, data, etc.). Having this available in a central location allows you to quickly import this information into databases (such as reference managers) or even to automatically generate citations in a wide range of styles on the spot: <https://crosscite.org/>.

Finally, DOIs make it easier to recognize when a work is being referenced (whether it is as a formal citation in an academic publication or as a link in a tweet or blogpost). Ongoing efforts² are therefore capitalizing on DOIs to provide citation metrics as well as alternative metrics or “altmetrics” like social media mentions (see Piwowar 2013). References with DOIs, therefore, help their authors receive credit for their work.

Where are QMMR articles archived?

QMMR articles are archived at ZENODO (<https://zenodo.org>), an EU funded, non-profit repository for scholarly work run out of the CERN particle accelerator.

Who creates the DOIs? Why do they say “zenodo”?

The DOIs are created by our archiving partner, Zenodo, based on metadata provided by QMMR. They are registered with the Datacite (<https://datacite.org>) registration agency.

Should I include DOIs in citations? If so, how?

Yes, you should absolutely include DOIs in citation. In fact, most major citation styles such as the *APA Style Manual* and the *Chicago Manual of Style* require or strongly encourage their use. Always use the DOI in its link form, i.e. <https://doi.org/<DOI>>. That way, readers will be able to quickly and reliably get to the resources you cite.

References

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² See e.g. <https://www.crossref.org/services/event-data/>