# Researchers propose framework for contextual metadata

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In an article published in the *International Journal of Metadata, Semantics and Ontologies*, a multi-center research team discusses how they hope to fill a significant gap in the documentation and sharing of

research data by focusing on "contextual metadata."

The researchers explain that traditionally, research metadata has usually been about research outputs, such as publications or datasets. The new stance considers the detailed information about the research process, such as how the data was generated, the techniques used, and the specific conditions under which the research was conducted.

The project considered six research domains across the life sciences, social science, and the humanities. Semi-structured interviews and literature review allowed the team to unravel how researchers in each domain manage this kind of contextual metadata.

They found that although a considerable amount of such metadata is available, it is often implicit and scattered across various documentation fields. This fragmentation makes it difficult to identify and use the information effectively.

The team thus suggests that there is a need for a standardized framework for contextual metadata that could be used across all disciplines. Such a framework would support future work to look at the replicability and reproducibility of research, which are important in scientific integrity and validation.

Replicability refers to the ability to duplicate a study's results under the same conditions, while reproducibility involves obtaining consistent results using the same datasets and methods.

Additionally, a standardized approach to contextual metadata could reduce research waste and even help reduce research misconduct by providing a clearer and more consistent way to document research processes.

However, there remain many challenges because of the diverse nature of research practices across different disciplines. Differences in funding models, regulatory requirements, and methods mean that a universal framework might not be directly applicable to all fields.

As such, the team has proposed a generic framework that recognizes the need for domain-specific adaptations.

**More information:** Christian Ohmann et al, Proposal for a framework of contextual metadata in selected research infrastructures of the life sciences and the social sciences & humanities, *International Journal of Metadata, Semantics and Ontologies* (2024). DOI: 10.1504/IJMSO.2023.140695

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