

Identifying RDM drivers, gaps and opportunities: A baseline assessment

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Abstract

Developing comprehensive Research Data Management (RDM) programs is a concern of increasing urgency for research-intensive universities. As an institution-wide issue, RDM requires overarching strategies to provide integrated infrastructure and services to support research across disciplines.

Previous work covers a range of perspectives. The Community Capability Model describes the maturity and growth of data-intensive work in disciplinary research communities (Lyon et al., 2012). Many studies consider RDM as a service of research libraries and consider policies, needs assessment, and outreach (Fearon et al., 2013). Others report on pilot studies with specific research units to identify their RDM needs (Poschen et al., 2012). Borgman (2015) contrasts how data is used in the sciences, social sciences, and humanities, through case studies of data management in a range of disciplines. At the institutional level, Pinfield, Cox and Smith (2014) present a model of RDM program components such as strategies, policies, guidelines, processes, technologies and services, as well as drivers, stakeholders, and other influencing factors.

While many research institutions are looking to increase their RDM capacity, there is currently no method to evaluate an institution-wide RDM program and consider questions such as:

- How do factors like distributed organizational structure and diversity of disciplines influence the opportunities and challenges of developing an RDM program?
- How can existing and emergent needs be addressed by leveraging existing processes, technologies and services? Which stakeholder partnerships are critical to facilitate these changes?
- Which key drivers and influencing factors are critical for the establishment and successful delivery of RDM services?

Our research aims to address this gap and provide a comprehensive view of institutional RDM capability. To make drivers, gaps and opportunities visible, we present here a case study of a baseline assessment that builds on the “Model of Institutional RDM” developed by Pinfield, Cox and Smith (2014). We apply this model to characterize the existing RDM capabilities at the University of Toronto, a publicly funded top-tier research institution with research in a wide range of disciplines, including biomedical and life sciences with four partner hospitals.

Our study is a joint effort between researchers from the Digital Curation Institute, an academic unit focused on digital curation research, and members of the University of Toronto Libraries (UTL) RDM Working Group, who are presently tasked with developing an approach and strategy for e-research within the UTL system in support of all disciplines. Through conducting interviews and workshops, we use the “Institutional Model of RDM” to address the varying levels of maturity in existing practice, understanding and technology used for data management across disciplines, and provide a comprehensive baseline assessment.

The contributions of this study are threefold. We evaluate the utility of the “Institutional Model of RDM” as a diagnostic tool. We present methods for conducting an assessment for use by other research-intensive universities to address their RDM capability. The findings of the study contribute to creating a road map for RDM capability development at the University of Toronto, and inform a large-scale strategy for data sharing and preservation that is sustainable and scalable.

References

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