

Research Data Management. What should the University Computer Central do about it?

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Introduction

The volume of research data within institutions are growing. A challenge is how to store data, retrieve data and manage data in a secure way. To rationalize research and data gathering, a vision of reuse of data is rising. This combined with a trend for Open Data and Data Access, is important for an institution to handle data in a controlled way. GDPR also puts constraints on how institutions can collect data and store it, and overall manage data in an ethical manner. Each researcher and the involved departments are in practice responsible for the data used in research. But in what way can institutional central computer centers contribute to successful data lifecycle management and processing of research data.

The researcher's perspective

Me, myself and my data.

Collected research data is owned, governed and protected by the researcher. Control and ownership are central conditions that can not be handled in a laid-back manner. Planning of data acquisition of required research data is the first phase to do.

The collected raw data is to be stored somewhere safe. Next phase is to prepare the data for analysis, remove errors and take away irrelevant data. Store again. Go through with the analysis needed and store again. Repeat until results are approved. Make sure there is version control for the data and where to find it (logs and data). It is also very important that the data is accessed in a secure manner, and only by the research team itself during this phase. Here concepts as MFA and secure storage are very crucial.

The third phase is to prepare for archiving and exposure of the data to the research community. Open Data approaches via institutional DAU (Data Access Unit) may be the preferred model. A Data Management Plan (DMP) is a good checklist and model for cohesive data management. Compliance with GDPR must be assured.

The Computer Central Perspective

One of the intentions with an institutional computer central (CC) is to be a valuable resource for the researchers. The CC is expected to deliver competence and infrastructure for the whole research process described above.

The challenge for the CC is to do this trustworthy over time and at a cost that is acceptable for the researcher. Otherwise, the CC will not be part of the research loop and shadow IT may thrive. Also, unauthorized use of cloud services may occur and GDPR violation may happen.

The challenge for the CC is to deliver both adequate technical resources and consultative competence for the researchers from the first day of the research project. It is a matter of trust and affordability.

Suggestions

A key artefact is the Data Management Plans (DMP) mentioned above. The DMP contains important information about the research project and the plan for data curation. If the CC can be a partner early in the process of writing the plan, the CC can provide advice of how to manage data from initial data collection to archiving, and how to analyze the data sets in a secure way. The DMP also gives important information about the demand of technological solutions for researchers and is therefore the basis for investment plans for procurement.

The CC should install a process for guidance of management of research data. The CC must have competent staff and a solid technological infrastructure. Information security and IT security is important factors for confidence.

This paper elaborates this process and alternatives.



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