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Implementing a digital scholarship centre at the University of Oslo

Abstract

Academic libraries are being forced to innovate in the face of the increasingly digitalized nature of research. The creation of digital scholarship centres or programs is one way academic libraries are attempting to meet the evolving needs of researchers. Such centres are often highly heterogeneous, and implementation can be challenging. In this paper, we discuss the experiences gained during the development of the University of Oslo's Digital Scholarship Centre and some of the challenges that remain to be resolved. We hope that these experiences can aid other academic libraries in their work towards developing new services that support digital research activities.

Keywords: digital scholarship, academic libraries, research support

Introduction

Library services, and how they are accessed, have changed radically due to the increasing use of digital tools in research. Not only do researchers access scholarly resources digitally, but they also gather and analyse data, create scholarly outputs, and disseminate their results digitally. For example, research data archives create opportunities for researchers to share their research results in a transparent manner, enhancing reproducibility and reusability of research. Data analysis increasingly requires the use of digital tools such as programming languages (e.g. R, Python), analysis tools (e.g. Nvivo, Stata) or the use of high-performance computing clusters. This ongoing digitalization of research has led academic libraries to explore new ways of reaching and supporting research communities highlighting both functional and subject expertise (Johnson, 2019).

One way libraries have met these changing needs is through the creation of digital scholarship centres that provide services related to “the use of digital tools to create, analyse, and disseminate scholarly products” (Mitchem & Rice, 2017). Despite using the same label, these centres are as diverse as the universities that host them and are often tailored to the specific needs of their home university

(Wiggins et al., 2022). At the University of Oslo, there was a need to increase researchers' digital competency and provide relevant support for using digital resources in research and education (Ludvigsen et al., 2019).

As a step toward meeting these needs, the University of Oslo (UiO) Library officially launched its own Digital Scholarship Centre (DSC) in 2022. It also helped meet the library's goal of being a "visible and relevant partner and support in the research process" (University of Oslo Library Strategy 2030, 2020). The DSC would act as a hub and resource centre dedicated to supporting researchers in developing competency related to Open Science, data management, and digital skills as well as creating communities and networks related to digital research activities. The library faced, and continues to face, both opportunities and challenges with the development of this type of initiative. The focus of this paper is to present some of the experiences gained during the development of the DSC, discuss some of the challenges, and how these experiences could be useful for others.

Description of the Digital Scholarship Centre

The UiO Library is currently organized into the following departments: the Humanities and Social Sciences Library, the Medical and Natural Sciences Library, the Law Library, and Collections and Digital Services. The DSC is officially placed under Collections and Digital Services department but works to coordinate services and activities across all four departments, effectively acting as a hub for research support services at the library. This is reminiscent of a matrix-style organization (Ford & Randolph, 1992) where the DSC cuts across the four different departments that currently exist at the UiO Library.

Formally, the DSC consists of a single staff member, reporting to the director of Collections and Digitals Service, who leads the development of the centre and coordination of its activities. In addition, the Section for Open Research, in the Collections and Digital Services department, hosts two positions which have DSC related tasks as a part of their job description. This includes supporting course logistics and coordination, website updates, communication (i.e. newsletter, social media, blog), training in data visualisation, teaching in DSC related courses, and development of the Carpentry community. A strategic development group, consisting of 9 members representing the different library departments, meets regularly to discuss topics related to the development of the centre. Further the DSC channels courses and support from staff placed within multiple sections and departments of the library. In total, at least 15 library staff members (not including leadership) are involved in different aspects of DSC activity.

Services provided through the DSC involve training, advice and community/network building on topics related to research data management, open science, open access publishing, text mining, visualization, qualitative data analysis, systematic literature search, and reference management. Researchers and collaborators access the DSC's services virtually by email, internal chat platforms, or through the centre's website. To give an example of scale, in 2023, we held 27 freestanding courses (~3hrs) for over 700 participants within open science and research data management and received over 100 emails asking related questions. This does not include the courses on other topics, those integrated into master or PhD programmes, or custom workshops.

Training is typically organized as either open freestanding courses that run every semester or as an integrated part of existing courses at both the master and PhD level. Tailored workshops, courses and lectures are also provided upon request. The DSC also manages access to a physical space within the Humanities and Social Sciences Library that is suitable for workshops, courses, and similar activities and can be booked by anyone at the university.

Additionally, the DSC supports multiple networks and communities at the university including a data managers network¹, a Carpentries community², a ReproducibiliTea journal club³ and contributes to multiple other projects. Such networks are important cross-disciplinary meeting places which support knowledge exchange and relationship building on common issues across disciplinary and departmental boundaries. While the DSC supports these communities and networks with coordination and continuity, it is critical that they are member driven to ensure relevance and visibility. For example, the data managers network and the Carpentries community both have steering groups which guide the development of those networks.

As a hub of activity related to digital research activities, the DSC participates in interorganizational networks with other entities at the university to provide effective services in a complex environment (Provan & Lemaire, 2012). Specifically, the DSC collaborates with other support services at the university including faculty research support staff, the central IT department and central research administration.

History and Implementation of the Digital Scholarship Centre

Building support

The impetus for creating the DSC began with a former director at the UiO Library who took inspiration from ongoing work in other countries and through experiences collaborating with researchers. One such experience was the establishment of a Carpentries community at UiO by an engaged group of researchers who later approached the library for support (Rasmussen, 2018). This highlighted the need for initiatives building digital skills and methods, and for practical aid with organization of open courses. Another example is the library's collaboration on the MusicLab project, an innovative data collection project with a goal of pushing the boundaries of open research practices (Sørbo et al., 2023). Both initiatives are examples of the complexity regarding digital transformation of research and the need for expertise and guidance in addition to practical support.

In both cases above, the library stepped up as a partner, one that can build partnerships across disciplinary boundaries and that has expertise related to supporting transparency and quality in research. These partnerships have proven to be invaluable in developing networks with influential researchers, strengthening internal competence in these areas, and understanding of researcher needs.

Partnerships such as these and ongoing research on how to provide research data services (Kvale, 2021) were the basis for the idea for creating a DSC at UiO. The idea was inspired by centres at other universities that provide similar services (Lippincott et al., 2014). Such centres share some characteristics but vary widely in organizational structure, competencies, resources, and goals (Sinclair, 2014).

In 2019, the library succeeded in building support for the DSC concept and it was subsequently written into the university's strategic development plan for infrastructure and IT related services (Ludvigsen et al., 2019). The library here proposed the DSC as a type of "competence centre for IT in research and education" (Ludvigsen et al., 2019, p. 21) where researchers could get support with using digital tools and resources in their research. The DSC was considered a response to the gap between digital competence among researchers and the accelerating pace of digitalization of research processes. The efforts of the library leadership in getting the DSC concept embedded in an

¹ <https://www.ub.uio.no/english/libraries/dsc/data-managers-network/>

² <https://www.ub.uio.no/english/libraries/dsc/carpentry-uio/>

³ <https://www.ub.uio.no/english/libraries/dsc/open-repro-research/reproducibilitea/index.html>

important strategy document was a critical factor in enabling the library to successfully build the centre. Without this, the library would not have been able to apply for funding or gather the necessary resources.

Development of the DSC officially began in 2019 with the Medical and Natural Sciences department of the library hiring a project manager (the first author) to initiate and lead the project. The project manager had responsibility for writing a project funding application with a project plan, vision, and budget. The vision was to create a resource centre for researchers to access support on digital research processes and skills development. The project plan involved four main activities: information gathering, relationship building, service development and prototyping, and creating a proposal for how the centre can be organized.

Project phase

The project proposal received funding for 3 years from strategic funds made available through the strategic plan mentioned above. To ensure that the project progressed appropriately and to maintain visibility and support for the project, a steering committee was formed to directly involve external stakeholders in the project. The committee consisted of the head of the university's IT department, the head of the central research administration, and a researcher with an interest in digital skills development. Feedback from this group was invaluable and proved to be important for securing support at the university. In particular, the IT-department has been an important stakeholder throughout the process by providing feedback, involving the centre in applications and committees, and referring researchers to centre services.

Once funding was secured, a second person with a design and UX background was hired to contribute to information gathering, service development, and supporting two community-driven initiatives. Information gathering involved both interviews and collecting existing literature to better understand existing services and researcher needs. In the spring and fall semesters of 2020, we conducted a series of interviews with four subject specialists at the library, fifteen established researchers, seven early career researchers, and five support staff from different disciplinary backgrounds. The initial interviews and meetings with library staff gave a starting point for understanding existing library services and identifying interview candidates. Subject librarians helped with contacting potential candidates and were invited to participate in interviews with researchers and support staff from the disciplines they support. The team then used an iterative thematic analysis to identify and understand available resources, existing services, researcher needs, and potential challenges. The results were important for guiding service development and developing a proposal for how the centre should be organized.

In parallel, the second project member had responsibility for following up two digital skills related initiatives (i.e. Carpentries@UiO and CodeRefinery) where the library was a partner. Both initiatives are international and community-driven, and the library provided coordination, communication, and community-building support plus access to physical spaces. Specifically, she worked with community members to organize workshops and study groups, participated in events, helped communicate and spread information about events, and contributed to recruitment. Supporting these initiatives has been important for competence development, network building, and visibility of the DSC. Carpentries@UiO is still a key pillar of DSC's service portfolio today.

As part of the service development and prototyping part of the project plan, we worked closely with a parallel project on expanding training in research data management. We also provided input on other activities and events which helped identify additional services which could potentially be delivered through the DSC. For example, the increasing interest in understanding open research

practices and how they can support transparency and reproducibility was the motivation for developing courses, events, and services on the topic. Similarly, opportunities arose around supporting data visualisation, qualitative data analysis, and text mining. These opportunities were developed together with library staff who had an interest in these topics and relevant background. This required a degree of flexibility and a willingness to fail and learn from those failures. Today, digital skills training through Carpentries@UiO, research data management services, visualisation, open and reproducible research, reference management tools, qualitative data analysis software, and systematic searches form the basis of the DSC portfolio.

As a part of relationship building activities, the DSC concept was presented to leadership and strategic partners across the university. Initially, there was scepticism around these types of services being organized in the library, and not somewhere else like the IT department, due to presumptions about its role and competencies. Over time, the library was able to build support for the concept by delivering courses and advisory services based on researcher needs and by showing the library's ability to facilitate community development across the university.

Transition from project to centre

As the project reached the end of its funding in 2022, there was a need to decide whether the DSC should continue or not and, if so, how to continue funding its activities. Based on the successes with service development, network building, and improving visibility, the library leadership decided that the DSC would formally move from being a project to becoming a permanent part of the library.

To support this transition, an implementation project was started with involvement from staff across the library. First, to provide the DSC with a high quality physical presence, a quiet reading room on the first floor of the Humanities and Social Science library was converted to a flexible and well-designed physical space for use with courses, workshops, and events. To improve its digital appearance, a website highlighting the different services represented by the DSC was also created.

To create visibility and engagement with the DSC, an opening event with an introduction by the rector and presentations from researchers who have used our services was held in June 2022. A larger event consisting of a series of 24 open workshops in digital methods and skills which attracted over 200 attendees was held in January 2023 (Kvale et al., 2023). The unique aspect of this event is that all workshops are organized and run by researchers at the university that we recruit through our network. It has become a community-based initiative that we continue to run every year under the name Digital Scholarship Days.

To ensure that the DSC had the necessary resources, the staffing and competency requirements for the DSC were also assessed. This involved reviewing the services and aspirations of the DSC and identifying the necessary staff and skills required to be able to deliver high quality services. An important recommendation that came out of this plan was to establish a strategic development group consisting of individuals who deliver services via the centre. The group was established in November 2022 and has responsibility for creating and implementing a development plan for the DSC.

Organizationally, it was decided that the library would gradually take over funding the centre once project funding ended in 2024. The DSC project manager became the leader of the DSC and was moved from the Medical and Natural Sciences library and placed under the director of the Collections and Digital Services department.

Challenges faced during the implementation

A new silo?

The DSC is an innovative project for both the university and the library. It represents a new way of organizing and delivering services through cross-organizational networks, the development of new services, a community-building approach to competence development, and the repackaging and communication of existing services. As with many innovative projects, it is often recommended to keep the innovative part of the organization separate from the rest (Christensen, 2015, p. 100) until it can be proven to be successful. This is an effort to shield the innovative project from existing practices and culture, giving them freedom to build something new, and that may potentially threaten existing operations. It can also shield the organization from collateral damage if the innovative project fails.

A challenge with this approach is that it can create a type of silo where the innovative activity operates with little input or interaction with other parts of the organization. Such a situation has emerged recently with the DSC with some of the departments reacting to the perceived distance between the Centre and their research support activities. Maintaining good communication channels within the organization is important for coordinating the diverse range of activities represented by the DSC. A lack of coordination has at times led to duplication, poor decision making, and frustration among library staff.

Hannah et al., (2020) observed this situation occurring with similar centres at other universities. They suggest that creating an organizational structure that supports interaction between digital scholarship services and subject specialists can help build understanding, engagement, and potentially also skills. They also highlight the need for incorporating learning into subject specialists' daily work such as through small projects which require these skills and incorporating them into teams or cohorts where they will get exposed to digital scholarship services.

The UiO Library has attempted to reduce the impact of silos by setting up a strategic development group consisting of a selection of individuals who provide DSC related services. Currently, the group has 9 members and is mandated to create and implement a strategic development plan for the DSC. The group allows everyone to stay informed, supports the DSC leader to identify emerging issues, and acts as a source of inspiration for new activity. Coordination meetings have also been organized between relevant section managers and the DSC to keep everyone updated on emerging issues related to research support services.

What is research support?

Another issue that has emerged is the lack of clarity around what constitutes research support at the library and who has responsibility for which service. For example, where is the boundary between traditional or existing library services and recently developed services considering that digital tools are used for both? How do we distinguish between educational support, digital research support, and research support provided by subject librarians? What is the library and DSCs role compared to other research support entities at the university (e.g. IT department, local research support, central administration)?

These definition and organizational challenges have led to a lack of clarity around areas of responsibility which results in information flow being based on personal relationships rather than through formal and visible channels. It can also mean that multiple, overlapping initiatives are created which leads to redundant and at times conflicting work. Individual staff members' ability to prioritize is hindered since they are not able to identify if one activity is of greater importance than another.

Visibility and preconceptions

One of the major challenges throughout the development of the DSC has been attaining sufficient visibility and endorsement for the concept. Academic libraries have for the last decade undergone a transition, moving from being solely a service provider to also be a research partner and pioneer (Greenhall, 2019; Johnson, 2019). However, university leadership and research support staff are often unaware of the library services due to existing preconceptions. This is often the case when innovative initiatives are started in organizations embedded in an institutional context with strong tradition and identity (Phillips, 2014, p. 492).

By packaging these services under the DSC label, we have avoided these preconceptions about what a library offers. This approach has helped increase the visibility of library services and enabled tailoring website content and communication towards researchers and research support staff.

In addition to using the DSC label, the centre leader actively seeks out opportunities to hold presentations for university leadership, research support staff, and researchers both centrally and at each faculty. The goal of such presentations is to increase awareness of the services provided by the DSC, understand what the different individuals perceive as important, and building relationships across the university. This proactive approach has created multiple opportunities for library staff to get involved in researcher training at multiple faculties, participate in highly visible projects related to data management, and be invited to hold talks or workshops for research groups. Additionally, this has highlighted the centre as a partner in research and infrastructure projects (currently five different internal projects) and created opportunities for library staff to contribute.

The drawback of this approach is that it reduces the visibility of the library itself and create challenges with how information flows through the organization. The DSC can appear as something separate from the library leading to confusion about who researchers should contact.

Conclusions

While there are challenges which needs continuous attention as discussed above, the UiO Library's DSC has been successful in communicating what support the library can provide related to digital research activities. We see a strong interest in courses, in particular the Digital Scholarship Days event which is also receiving overwhelmingly positive feedback from participants. The domain and functional expertise offered to researchers through the DSC crosses disciplinary boundaries with a focus on skills, tools and methods which are used across domains. Questions directed to the DSC's point of contact are often examples of the complexity researchers navigate in developing and conducting research projects. DSC has also led to an increased understanding of how the library can contribute to the different stages of the research process. A growing number of requests to become a partner in different research and infrastructure projects tells us about a new perception of what the library can offer. Hopefully, these insights will have relevance for other academic libraries seeking to build digital scholarship services.

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