

Digital Scholarship services and supports - an overview from Irish Research and National Libraries

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Contents

Contents	2
Introduction	3
Summary of results	4
Services/Supports	5
Where can a researcher find digital scholarship support?	5
Staffing	5
Library Staff who support Digital Scholarship	5
Organisational change driven by Digital Scholarship	7
Staff Profiles	8
Skills	9
Spaces	10
Partnerships	10
Funding	11
Activity Assessment	11
Future and where can CONUL help	11
Appendices	13
Appendix 1: CONUL Research Group	13
Appendix 2: Data	14
Survey data	14
Appendix 3: Staff	15
Staff responsibilities	15
Appendix 4: Introduction text of email invite to survey	16
Appendix 5: CONUL Digital Scholarship Survey questions	17
References	18

Introduction

In February 2018, the Consortium of National and University Libraries (CONUL) Research Group organised a survey of Irish research libraries and institutions to better understand how we currently structure digital scholarship services and supports. Libraries are still struggling to use a shared language for digital scholarship, therefore it is useful to think of digital scholarship as an umbrella term; used to define a set of functions and services that enable newer forms of scholarship in universities and other research institutions. This is often within the digital arena and can encompass: library-focused research support, open access, digital repositories, digital exhibitions, project management, digital publishing, metadata, impact, discovery, digital preservation, identifiers, copyright, data management, and research metrics.

The main aim of the survey was to identify current approaches to digital scholarship services and supports in Irish research and national libraries. What roles exist, what services are provided, and what gaps there are. In addition, we focused on how can CONUL help progress, improve, and institutionalise digital scholarship in Irish research institutions. The overall goal was to better understand how we currently structure digital scholarship services and supports and to collate information about existing digital scholarship activity in Irish research libraries. Results will be used to facilitate knowledge sharing between CONUL libraries and contribute towards the next steps taken by the CONUL Research Group.

This survey is closely based on similar work carried out by the Association of Research Libraries (ARL) in the US (Mulligan, 2016). The survey is structured around 19 key digital scholarship activities. Similar to the ARL survey, respondents are asked how each of the activities related to their organisation in key areas. These are 1) Services/supports, 2) Staffing, 3) Skills, 4) Partnerships, 5) Space, 6) Funding, and 7) Activity Assessment. In addition, the CONUL survey sought feedback on the future and how CONUL can help.

The survey was distributed to 13 CONUL members and another [10+] Irish research institutions. Eleven CONUL members completed the survey (85%) while no (0%) other institutions outside of CONUL accepted the offer to complete the survey. Many responded to say that digital scholarship services don't exist or are nascent.

We are grateful to the institutions who responded to the survey and the findings will help the CONUL Research Group plan training, policy, and supports for digital scholarship in Irish libraries.

Summary of results

The most supported digital scholarship activities are digitisation, making digital collections, metadata creation, and digital exhibitions. These mainly exist as primarily library functions, yet high levels of collaboration from both inside and outside the library are used to be effective in these activities. The least supported activities are statistical analysis/support, computational text analysis, and developing digital scholarship software. While Libraries don't tend to create software, comments suggest a healthy level of participation in open source communities such as International Image Interoperability Framework (IIIF), Islandora, Samvera, and VuFind. For activities not strongly or typically supported within the library context, such as project management, text analysis, and 3D modelling, libraries do provide some support. We see a highly collaborative (ad-hoc or structured) approach to support such institutional activity, with IT staff, researchers, and finance staff appearing as the most frequent collaborative partners.

The most critical digital skills gaps and areas to improve are digital preservation, data curation and management, computational text analysis/support. By way of contrast, most libraries identify statistical analysis as a skills gap but none felt this was the most critical area in need of improvement. This data may indicate that these are areas where scholars can access support from other departments such as a dedicated statistic support unit. Comments for this section indicated that while libraries are well aware of gap areas they do not have the resourcing or capacity to address all areas. This data strongly suggests that future CONUL training event should focus on a roadmap for digital preservation.

In terms of library management and delivery of digital scholarship supports or projects the most commonly cited partner is central Information Technology (IT) followed by external suppliers. The majority of libraries use their general budget for funding digital projects, with over half also receiving internal funding from strategic institutional funding sources. This shows the reliance of digital scholarship activity on the general library budget.

Finally, for how CONUL can help, information sharing was viewed as the most relevant and effective assistance measure with the top identified areas being training, seminars, publishing white papers of shared interest areas, and sharing knowledge and best practice while having eyes and minds open for overlaps and opportunities for partnership in project and funding bids.

Services/Supports

Where can a researcher find digital scholarship support?

Respondents were asked to indicate where a variety of digital scholarship services were supported in their institutions. Supports were divided into 4 categories: “in the library”, “elsewhere in the institution”, “elsewhere outside the institution”, and “not currently supported”. Services garnishing the highest level of library support (90-100%) included digitisation, making digital collections, metadata creation, and digital exhibits. Those services least supported in the library (0-10%) include statistical analysis/ support, computational text analysis and developing digital scholarship software. Interestingly, those areas with the strongest support levels (90-100%), fall solely within the library. While other services are supported outside the library in the low to medium range (50-65%). The four services supported at the highest levels suggest functions that typically fall within the library’s service remit: for example, metadata creation and outreach.

Respondents’ comments for this section suggest that even within the four areas with the greatest levels of support in the library (define above) there are high levels of collaboration both inside and outside of the institution. For example, digitisation is done in association with academic staff or centres, digital exhibits are built in partnership with collection curators or rights holders, and other staff can provide content for metadata creation. Comments for four of the activities categorised as “not currently supported” suggest planning for those service launches is within the next 12 months. Also, while support for “developing digital scholarship software” was one of the least supported activities in libraries, the comments suggest a healthy level of participation in open source projects (IIIF) and open source communities (Samvera, VuFind).

Additionally, respondents were asked about the types of researchers that digital scholarship supports are available to. Not surprisingly, the majority of institutions support affiliated researchers, with the general public receiving a modicum of support and external researchers receiving occasional levels of support.

Staffing

Library Staff who support Digital Scholarship

Respondents were asked to designate which category of library staff support the 19 activities discussed above. These categories include librarians, archivists, support staff, interns, post-graduate students, undergrads and other staff. Ten of the 19 activities are primarily supported by librarians, three by archivists and two by support staff. This strongly suggests that even for those activities not strongly or typically supported within the library context, librarians do provide some support. The activities most strongly supported by librarians are identical to the activities identified in the first question (making digital collections, metadata creation and digital exhibits), indicating that these activities are becoming central to today’s library practice. Additionally, digital publishing was identified in nine of the responses as a librarian-supported activity.

Survey respondents were asked to identify examples of “other staff.” While the “other staff” category provides a moderate level of support for digital scholarship services, examples of this category do suggest institutional collaboration, with IT staff, researchers and finance staff appearing as the most frequent examples.

Lastly, respondents were asked to provide descriptions of key digital scholarship activities and those staff supporting them. From the descriptions, there is strong anecdotal evidence that outreach activities, such as digital collections and workshops, form the core of these activities. Again, a variety

of library staff, supplemented by additional institutional or external assistance, support these activities. See **Figure 1: Library staff who support digital scholarship activities.**

Staff Supporting Activity

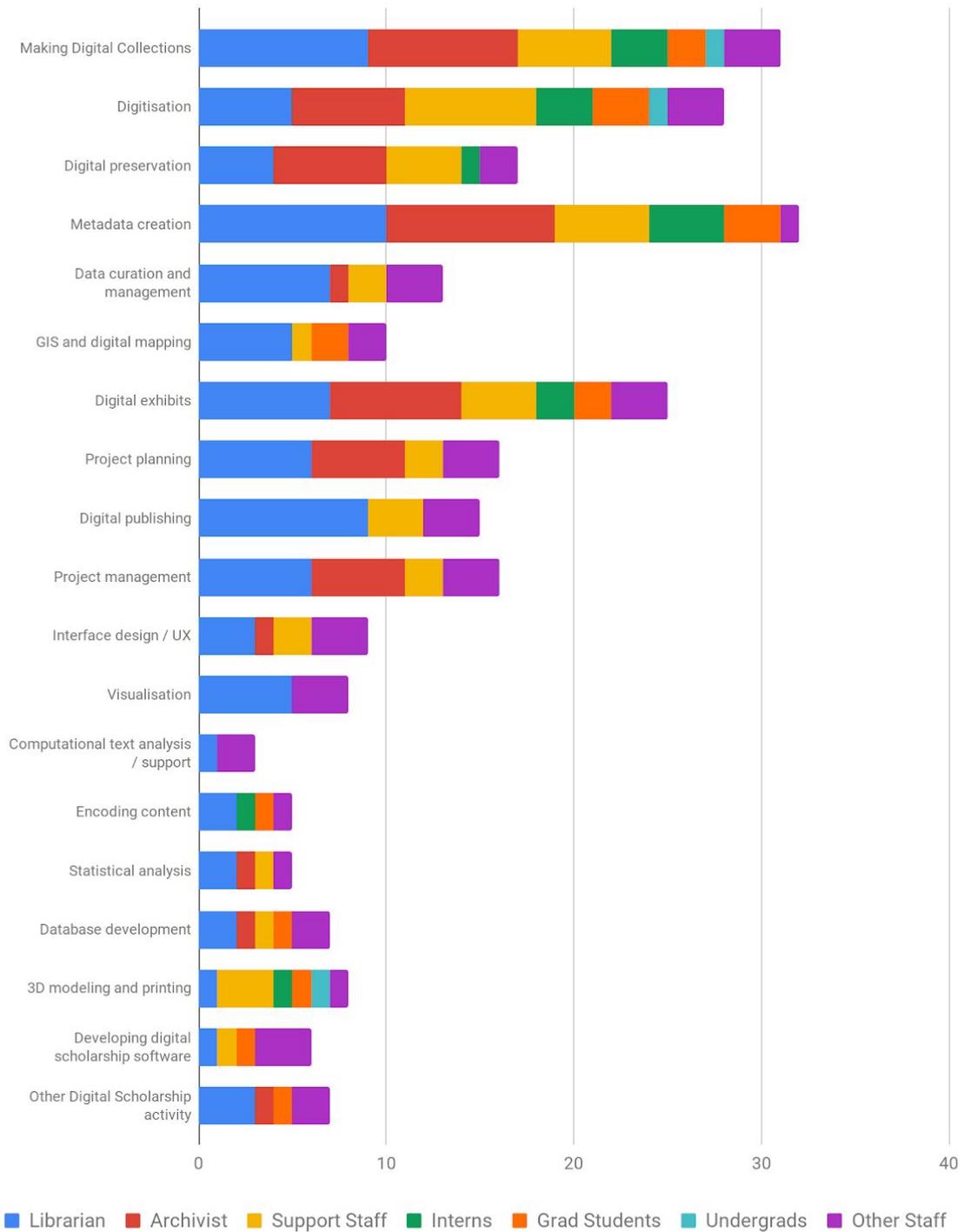


Figure 1: Library staff who support digital scholarship activities

Organisational change driven by Digital Scholarship

The survey asked respondents to note how digital scholarship activities may have affected organisational change. We were interested in whether such functions had a larger, strategic impact on the library's organisational culture. Significantly, just over a third of respondents noted that their organisation had created a dedicated department/unit for digital scholarship activities. This would suggest a strong, strategic commitment to such services among a core of Irish libraries. While over half of respondents indicated no such change had occurred, roughly 9% point toward a dedicated digital scholarship unit in the near future. Again, a significant element of digital scholarship services and activities in Irish academic libraries, emerges in the data. See **Figure 2: Has any library department/unit been created or reorganised specifically to support digital scholarship activities.**

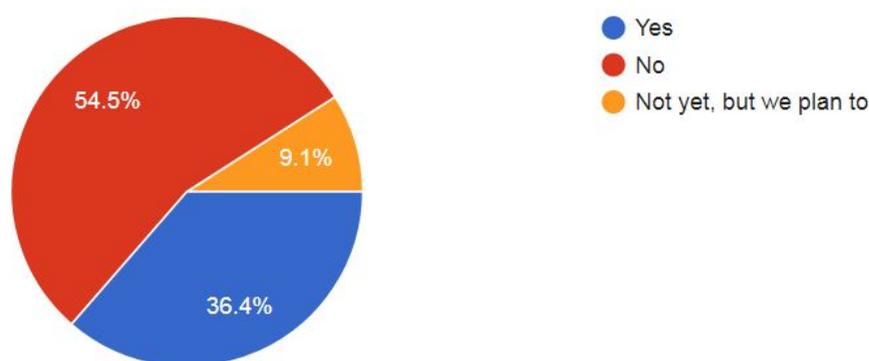


Figure 2: Has any library department/unit been created or reorganised specifically to support digital scholarship activities

In addition, we wanted to understand how staff are organised within the libraries to support digital scholarship. Discussions at the CONUL Research Group indicated that some institutions have a dedicated digital scholarship team or unit while others use a more dispersed and ad-hoc approach (as with the nature of an emerging service). For each of the 19 categories we asked respondents to indicate how staff support is distributed, i.e. distributed across the library but not as a recognised team; organised as a single recognised library team or organised as a single library. Responses indicate that staff supporting digital scholarship are organised under two main models, either distributed across the library or organised as a single recognised library team. The majority of respondents indicate that a single recognised library team is responsible for the following tasks: Making Digital Collections, Digital Preservation, Data Curation and Management, GIS and Digital Mapping, Digital Exhibits, Digital Publishing, Visualisations and Encoding Content. Metadata Creation, Project Planning and Management and Interface Design/UX are distributed across the library. These results indicate a trend towards increasing capacity to support evolving areas of library practice by establishing new teams or units. See **Figure 3: How staff are organised within the library to support digital scholarship.**

Staff organisation

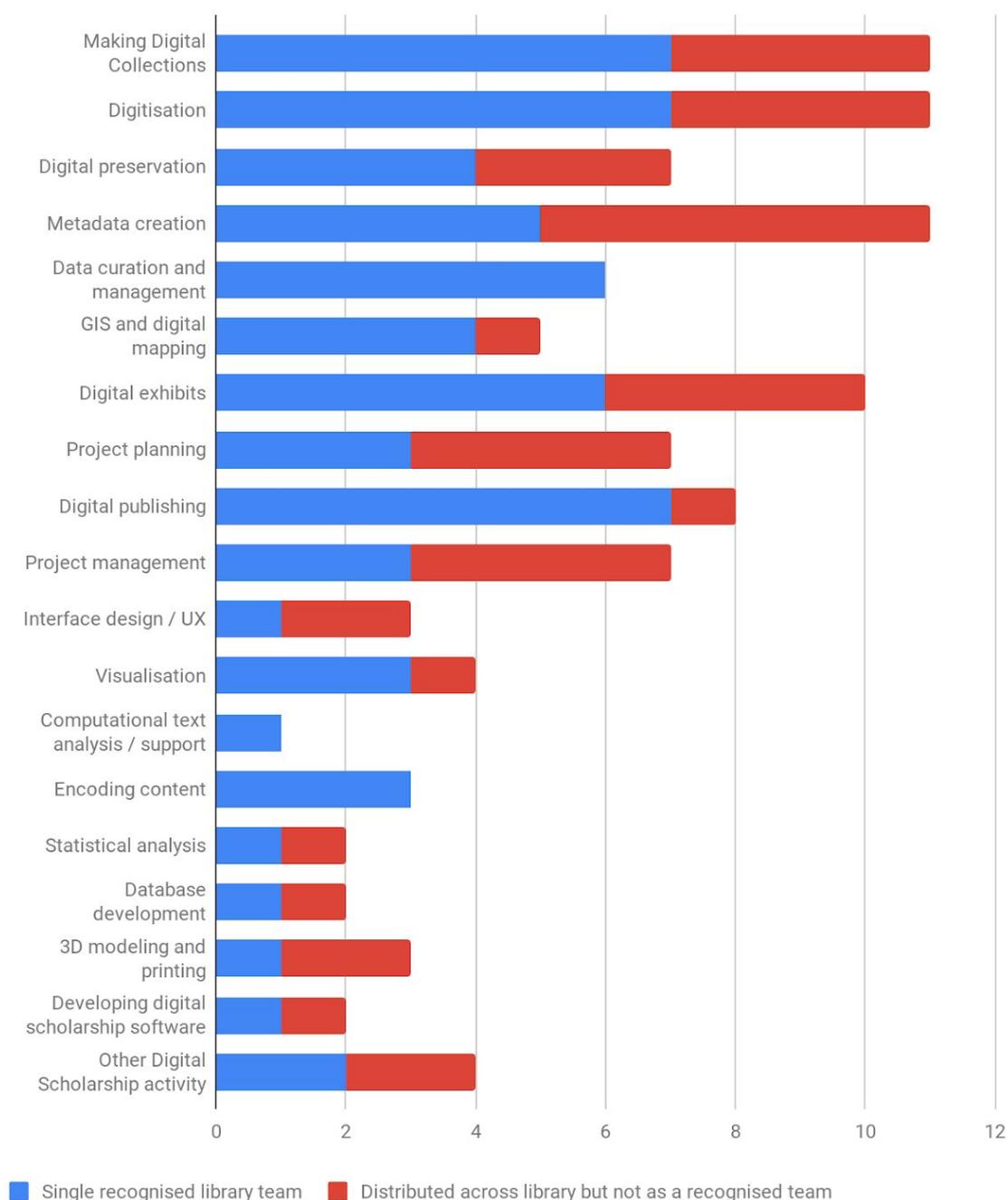


Figure 3: How staff are organised within the library to support digital scholarship

Staff Profiles

In this section, we asked respondents for some more detailed information about the library staff whose work is most closely tied to digital scholarship-related activities. Respondents were asked to identify up to four library staff whose responsibilities include significant support for digital scholarship-related activities.

The variety of staff identified indicates range of positions at different grades, across traditional functional areas currently supporting digital scholarship. These staff members were asked to list their responsibilities, both support and primary, related to digital scholarship-related activities. The responsibilities listed reflect the more 'traditional' library areas, such as digital collections' creation, digitisation, metadata creation, data curation etc., but also include other tasks not traditionally associated with library roles, such as project planning, project management, interface design, database design and digital mapping (see Appendix 3 for list of primary and secondary responsibilities).

Skills

Respondents were asked about their perceptions of where in their library there were the most significant skills gaps in relation to digital scholarship. In the same question block respondents were then asked to select up to three skill areas they considered most critical to improve. All the respondents entered data in this section and four comments were made to provide further context.

Libraries identify skills gaps across all 19 skills areas used by the survey. Ranked from highest response to lowest, the areas that Libraries identified as having skills gaps were; Digital preservation (82%), Computational text analysis / support (73%), Data curation and management (64%), GIS and digital mapping (64%), Statistical analysis (64%), Digital exhibits (55%), Visualisation (55%), Encoding content (55%), 3D modeling and printing (55%), Developing digital scholarship software (55%), Metadata creation (36%), Digital publishing(36%), Interface design / UX (36%), Making Digital Collections (27%), Digitisation (27%), Project planning (27%), Project management (27%), Database development (27%), Other Digital Scholarship activity (27%).

However when respondents were asked to identify the areas they felt were most in need of improvement a slightly different emphasis emerged from the survey. While the respondents were able to identify a broad range of skills gaps in the first question they were asked to prioritise up to three in the second. These responses perhaps better capture which digital scholarship skills are seen as most critical. Based on these responses the areas seen by libraries as most critical are Digital preservation (73%), Data curation and management (55%), Computational text analysis / support (27%), Making Digital Collections(27%) and Visualisation (18%). By way of contrast, 64% of libraries identify statistical analysis as a skills' gap but none felt this was a most critical area in need of improvement. In this way, areas commonly identified as a skills gap, like statistical analysis and computational text analysis, were nevertheless seen as of less critical importance in library development. This may indicate that these are areas where scholars can access support from other departments, for example, as a dedicated statistic support unit. The comments for this section indicated that while libraries are well aware of gap areas they do not have the resourcing or capacity to address all areas. See **Figure 4: % of areas identified as skills gaps (blue) and areas most critical to improve (red)**.

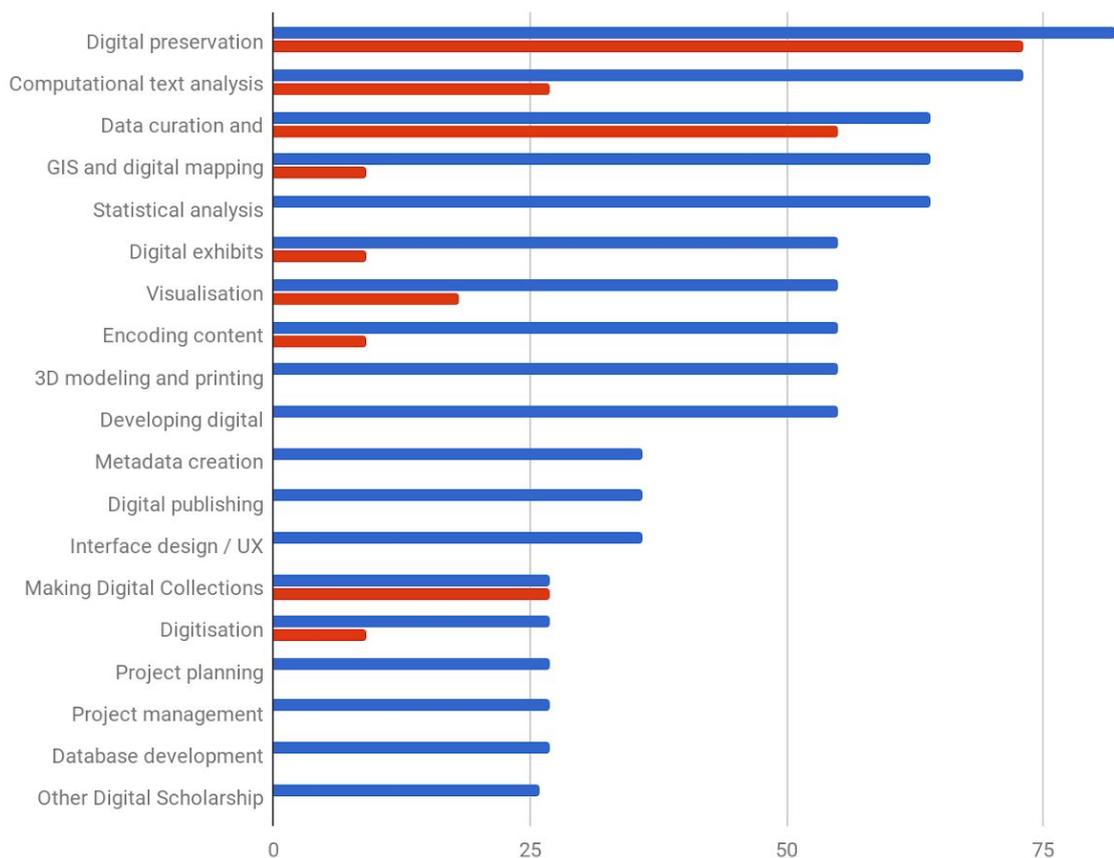


Figure 4: % of areas identified as skills gaps (blue) and areas most critical to improve (red).

Spaces

Most respondents (64%) provide workshops or training related to Digital Scholarship activity. Workshops and training events are generally focused on widely used and supported activities such as digitisation, metadata, and research data management. Marketing of these events is via social media, email, and posters and, generally, feedback is gathered.

Currently, the majority of libraries (73%) do not have a specific space in the library for creativity and making.

Partnerships

Respondents were asked how often their library partnered with or drew resources from other units in order to fulfill requests for digital scholarship support. Respondents were given a choice of eight unit types, or asked to identify other units in the comments section. Most commonly, libraries partner with the IT unit (10 responses of 'often or sometimes'), with external suppliers (10 responses of 'often or sometimes', their own institutional repository (10 responses of 'often or sometimes'), archives (8 responses of 'often or sometimes') and other libraries (8 responses of 'often or sometimes'). Other areas of collaboration and support mentioned in comments were with individuals or groups of academics and overseas universities. See **Figure 5: How often does your library partner with or draw resources from others to fulfill requests for digital scholarship support?**

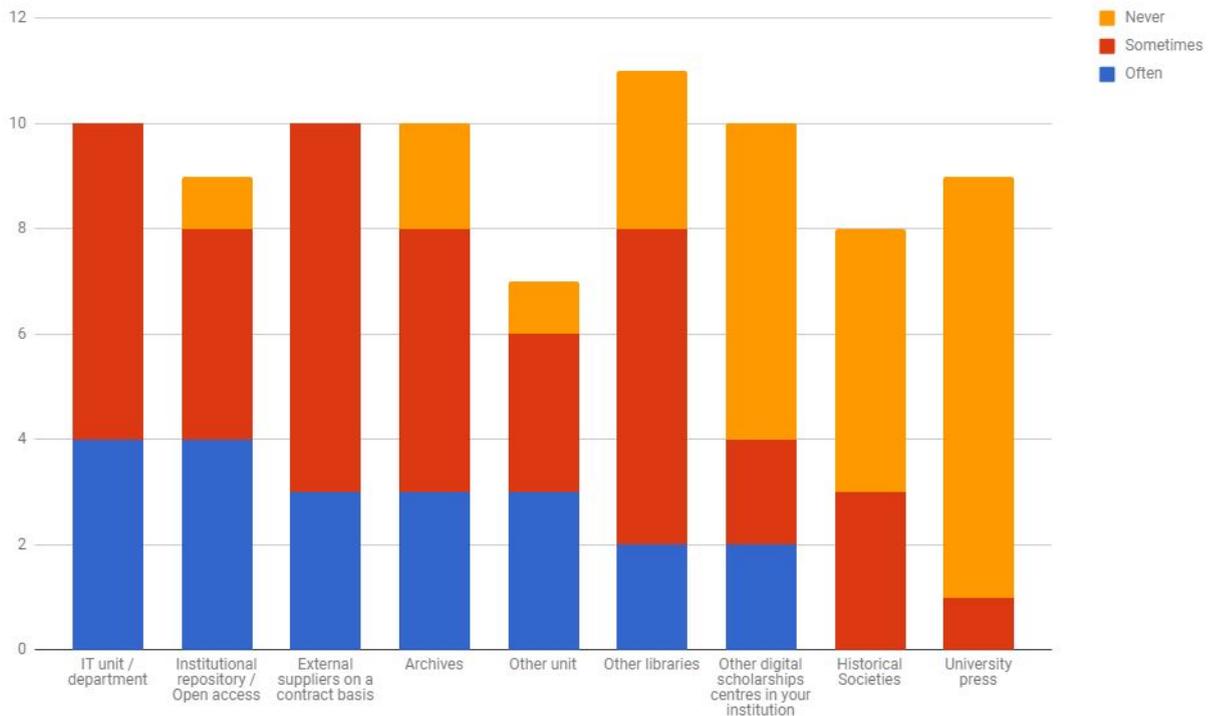


Figure 5: How often does your library partner with or draw resources from others to fulfill requests for digital scholarship support?

Funding

91% of libraries use their general budget for funding digital projects, with over half (55%) also receiving internal funding from strategic institutional funding sources. However, funding sources from academic disciplines and research/grant funding both stand at 46%. Overall, this shows the reliance of digital scholarship activity on the general library budget and how most libraries who are engaged in digital scholarship activity view the value in growing their digital scholarship presence.

Activity Assessment

Most Libraries have not conducted an assessment of their digital scholarship activity. This makes sense given the nascent nature of the activity in most institutions. 18.2% (two) libraries have conducted an assessment. 27.3% (three) libraries have no plan to conduct an assessment, probably due to the very early stage of their digital scholarship activity. One library is currently in an assessment process, another library plans to soon start accessing, and another has conducted related assessments of open access and research data management activity. The preferred method for assessment is interviewing of researchers followed by a user survey.

Future and where can CONUL help

Most respondents (80%) stated that CONUL can assist with forms of information sharing. The top identified areas are training, seminars, publishing white papers of shared interest areas, sharing knowledge and best practice, and utilising overlaps and opportunities for partnership in project and funding bids.

Digital scholarship activity is emerging, evolving, and maturing in CONUL institutions. In addition to the four core activity areas identified in this report (digitisation, making digital collections, metadata creation, and digital exhibits) different institutions currently specialise in specific areas of digital scholarship activity (for example, GIS and digital mapping, data curation and management, digital

preservation, and interface design/UX). There is an opportunity to share and combine knowledge to support digital scholarship strategy and specific activities between CONUL members. Overall, sharing was suggested in the following forms; sharing knowledge, offer shared support for specific digital scholarship areas (where possible), share best practice/models/guidelines, share training/workshops, and share good news stories.

A selection of specific suggestions from individual respondents are:

- For shared support, each institution could specialise in specific digital scholarship areas. Information/content can be shared for use in individual institutional via Web site, guides, information sheet, posters, and other communication channels and methods.
- CONUL institutions could share supplier expertise for various topics. Covering the areas of expertise, supplier workflow/process, and experience with the supplier.
- Identify opportunities for shared digital collections. Identification can be based on the collection strengths of individual institutional.
- Aim to build relationships with international organisations such as Coalition for Networked Information (CNI). To jointly organise events, share information, and build networks.
- How to advocate and demonstrate value for Digital/Open Scholarship. Specifically how to sell Digital/Open Scholarship to researchers and campus funders – identify tangible benefits e.g. increase success of a funding application, employability, and PhD numbers. Approaches to partnering with academics – including such tools in a curriculum; getting the conversation started on campus.

The authors suggest the following actions:

- Create a community of practice wiki platform that can be used for questions and sharing knowledge. For example, the widely used online platform Confluence <https://www.atlassian.com/software/confluence> is used for sharing, communication, and managing a community around a shared purpose.
- Be open to future opportunities to share infrastructure, cost, and management for multi-site open repositories which are cloud managed and hosted. The proposed vision is for a single contract and managed service that many institutions can use and brand to match their individual requirements. Some convergence on standards and processes is expected and will be encouraged.
- Investigate and identify opportunities for CONUL members to enable digital scholarship and researchers by reviewing the up-to-date literature and taking guidance from other national and international leading-edge initiatives and partnerships.
- Create an action plan of CONUL Research Group activity in the area of Digital Scholarship based on the findings and recommendations of this report.

Appendices

Appendix 1: CONUL Research Group

This survey and report was created by the Digital collections' sub-group of the CONUL Research Group. The focus of the CONUL Research Group is to explore and promote best practice and provide guidance and expertise in a wide range of activities, including research data management, open access, scholarly communications, research impact, digital repositories, digitisation and digital preservation, common infrastructures, and digital scholarship.

Members of this group are:

- Julia Barrett (University College Dublin) (Chair CONUL Research Group, Research Data Management sub-group)
- Andrew Simpson (Royal College of Surgeons in Ireland) (Deputy Chair CONUL Research Group, Chair of Research Data Management sub-group)
- Brendan Devlin (Dublin Institute of Technology) (Secretary CONUL Research Group, Scholarly Communications' sub-group)
- Ciarán Quinn (Maynooth University) (Communications Officer CONUL Research Group, Research Data Management sub-group)
- Cillian Joy (National University of Ireland Galway) (Deputy Communications Officer CONUL Research Group, Chair Digital Collections' sub-group)
- Michael Carragher (University of Ulster), (Scholarly Communications' sub-group)
- Arlene Healy (Trinity College Dublin) (Digital Collections' sub-group)
- Breeda Herlihy (University College Cork), (Scholarly Communications' sub-group)
- Fran Callaghan (Dublin City University), (Scholarly Communications' sub-group)
- Caleb Derven (University of Limerick) (Digital Collections' sub-group)
- Dan Holden (Queen's University Belfast), (Chair Scholarly Communications' sub-group)
- Eoin Kilfeather (National Library of Ireland) (Digital Collections' sub-group)

Appendix 2: Data

Survey data

The following spreadsheet contains survey data with comments (cleaned, direct references to institutions removed) and broken down into the question sections. Some of the data has been converted to counts where it was used to generate the charts. See

<https://doi.org/10.5281/zenodo.2557680>

Appendix 3: Staff

Staff responsibilities

Key responsibilities of library staff most closely tied to digital scholarship-related activities.

The top primary responsibilities are:	The top secondary responsibilities are:
Making Digital Collections	Making Digital Collections
Digitisation	Digitisation
Metadata creation	Digital Preservation
Digital Preservation	Metadata Creation
Digital Exhibits	Data Curation and Management
Digital Publishing	Digital Exhibits
Other Digital Scholarship Activities	Project Planning & Management
	Interface design / UX
	GIS and digital mapping
	Database Development
	Digital Publishing

Appendix 4: Introduction text of email invite to survey

On behalf of the [CONUL Research Group](#), I am contacting you to ask if you can arrange for the completion of the below CONUL survey of Digital Scholarship activity in your institution. A PDF version is also attached which should hopefully be helpful in working out which of your colleagues to involve. We provide an operational definition of [digital scholarship below](#). The survey can be completed online using the Web link

https://docs.google.com/forms/d/1rUYHixNCnD-cVzdlzJyuHpZ3rWljAJ2So_bNEITZAVw.

The survey will close at 18:00 on Friday, 16 February 2018. Your input into the survey is greatly appreciated.

The aim of this survey is to collate information about existing digital scholarship activity in Irish research libraries.

Your data will help the CONUL Research Group to plan training, policy, and supports for Digital Scholarship in Irish libraries. Results will be used to facilitate knowledge sharing between CONUL libraries and contribute towards the next steps taken by the CONUL Research Group. In addition, results and/or white papers in the area will be published publicly by CONUL.

One of the aims of the CONUL Research Group is to build knowledge within and across Irish Libraries on enabling digital scholarship activities. We are investigating how modern digital scholarship functions in Irish Libraries integrate with an evolving research lifecycle at an institutional level. Underpinning this is the question of how we can best enable digital scholarship in a university setting to both encourage and facilitate strategic rethinking, while harnessing existing functions and services.

As a first step, we are conducting a survey to gather data on how Irish research libraries enable digital scholarship.

We expect that for many digital scholarship activities are in the early stage of development and not yet an embedded and marketed service in our service catalogues. For the purposes of the survey, take the view if you don't market the service (publish on your Web site or service catalogue) then it's not a service. You can comment that service is emerging, you offer advice, or something to that effect.

Who should complete the survey?

It is expected that a group from each institution will complete and submit one survey per institution. To fill out the survey, we recommend arranging a group meeting that includes staff involved in the operation and management of Digital Scholarship activity.

Access the survey using

https://docs.google.com/forms/d/1rUYHixNCnD-cVzdlzJyuHpZ3rWljAJ2So_bNEITZAVw.

Digital Scholarship is an umbrella term used to define a set of functions and services offered to enable newer forms of scholarship in universities and other research enabling institutions. This is often within the digital arena and can encompass: library-focused research support, open access, digital repositories, digital exhibitions, project management, digital publishing, metadata, impact, discovery, digital preservation, identifiers, copyright, data management, and research metrics.

Appendix 5: CONUL Digital Scholarship Survey questions

As stated in the introduction, this survey is closely based on similar work carried out by the Association of Research Libraries (ARL) in the US (Mulligan, 2016). A list of top level questions can be found below and the link to the survey questions is

https://docs.google.com/forms/d/1rUYHixNCnD-cVzdlzJyuHpZ3rWljAJ2So_bNEITZAVw/edit

Top level questions

- Please indicate where a researcher at your institution (whether faculty, student, or other researcher) can find support for the digital scholarship activities.
- Please indicate which categories of library staff support the digital scholarship activities listed below. [Figure 1]
- Please briefly describe key activity(ies) and identify the staff category(ies) that supports it.
- To help us understand how staff are organised within the library to support digital scholarship, for each activity listed below, please indicate how staff are distributed. [Figure 3]
- Has any Library department/unit been created or reorganised specifically to support digital scholarship activities? [Figure 2]
- In the next set of questions, we are asking for some more detailed information about a few of the library staff whose work is most closely tied to digital scholarship-related activities. Please identify up to four library staff whose responsibilities include significant support for digital scholarship-related activities and enlist their aid in completing the following profiles. (e.g. "Digital Scholarship Librarian")
- Please indicate where the most significant digital scholarship skill gaps are in your library. [Figure 4]
- How often does your library partner with or draw resources from the following units/teams to fulfill requests for digital scholarship support? [Figure 5]
- If you provide workshops or training on Digital Scholarship activities please list these.
- If you provide workshops or training on Digital Scholarship activities, how do you currently publicise the events and determine impact?
- If you provide spaces to support Digital Scholarship, for e.g. Maker Spaces, Digital Scholarship Centres, please provide a description below
- Please indicate the source(s) of funds that support library digital scholarship activities.
- Has your library assessed or evaluated its ability to support digital scholarship activities, for example by collecting project data, interviewing individuals, conducting focus groups, surveying users, etc.?
- If yes or you plan to, what assessment method(s) does/will your library use? Check all that apply.
- How can CONUL help with the development of Digital Scholarship activity at your institution?

References

Mulligan, Rikk (2016). Supporting Digital Scholarship. SPEC Kit 350. Washington, DC: Association of Research Libraries, May 2016. <https://doi.org/10.29242/spec.350>
https://docs.google.com/forms/d/1rUYHixNCnD-cVzdIzJyuHpZ3rWljAJ2So_bNEITZAVw/edit#responses