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Digital Collaborations: A Survey Analysis of Digital Humanities Partnerships Between Librarians and Other Academics

Jessica Wagner Webster <jessica_dot_wagnerwebster_at_baruch_dot_cuny_dot_edu>, Baruch College, City University of New York

Abstract

The present study will investigate the perceptions of information professionals about their role in the work of digital humanities scholars, as well as the perceptions of digital humanities scholars on the role of information professionals in their research. While other scholarly literature has considered collaborations between these groups via surveys or interviews with small project teams, the present study will provide a large-scale analysis of collaborations using survey responses from more than 500 scholars, librarians, and archivists. Questions sought to determine the extent to which these groups collaborate with one another on project teams; how these collaborations unfold and who initiates them; whether IPs have begun to adjust and adapt their work to support specific DH projects, or to make their content more appealing and easy for potential future DH projects; and what administrative hurdles are faced during the collaboration. The survey also address how information professionals and DH scholars view the success of the collaboration after completing their work, and whether they intend to collaborate in future. To conclude, the article will consider what these responses tell us about how best to support all members of these collaborations.

As technological tools have developed over the last several decades, humanities scholars have explored the opportunities computing technology makes available for conducting and enhancing their research. Scholars have developed techniques such as using software to mine texts and creating data visualizations such as maps, charts, and graphics. Further, they have developed new software products to aid in their research. These techniques allow scholars to grapple new kinds of qualitative and quantitative research questions, as well as to work with data and text at scale. Similarly, archivists and librarians have developed an extensive literature and tool set to collect, accession, make accessible, and preserve a wide variety of digital content for their collections. Many of these skills and techniques overlap with those of DH practitioners; for example, digitizing a text document and performing optical character recognition to generate a searchable transcript could be a key step in both a DH scholar's research and an archivist's making a historic pamphlet accessible for researchers. Furthermore, texts and DH projects generated by the work of DH scholars might be worth accessioning and preserving as part of their collections; steps in the archival workflow might have to be adjusted to accommodate data sets, websites, applications, visualizations, and other products that result from DH scholars' work.

The present study will investigate the perceptions of information professionals (IPs) about their role in the work of DH scholars, as well as the perceptions of DH scholars on the role of IPs in their research. While other scholarly literature has considered collaborations between these groups via surveys or interviews with small project teams (e.g., Keener 2015, Poremski 2017), the present study will provide a large-scale analysis of collaborations using survey responses from more than 500 scholars, librarians, and archivists. The survey questions were based upon findings in a literature review focusing on DH labor, best practices, and case studies, and were designed to identify trends across both groups. I wanted to determine the extent to which these groups collaborate with one another on project teams. Questions sought to ascertain how these collaborations unfold and who initiates them; whether IPs have begun to adjust and adapt their work to support specific DH projects, or to make their content more appealing and easy for potential future DH projects; and what administrative hurdles are faced during the collaboration. After working together, how do IPs and DH

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scholars view the success of the collaboration, and do they intend to collaborate in future? What do these responses tell us about how best to support all members of these collaborations?

Literature Review

Digital humanities collaborations between information professionals and subject faculty/researchers/alt-academics have been written about extensively, primarily by information professionals; indeed, I was unable to find any studies on these collaborations authored by subject faculty. First, of course, collaborations between information professionals and subject specialists have been common occurrences since the advent of this kind of work. Further, sometimes a researcher inhabits both roles: an information professional may also pursue subject research and perform digital humanities work, and vice versa [Porter 2014]. To place the present study into context, I will focus on scholarship that focuses on the labor that goes into digital humanities work, as well as scholarship that describes different types of collaborations in the digital humanities.

Labor

Some scholars writing about library labor in the digital humanities have focused on the question of whether information professionals should be seen as acting in "service" to subject scholars, or whether they inhabit the role of a professional peer.

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Two prominent research organizations sought to frame the discussion around ways librarians can support digital humanities scholars in their work, and discussed difficulties encountered in developing and supporting these collaborations. In 2011, the Association of Research Libraries released *SPEC Kit 326: Digital Humanities*, a report based on a survey of membership about their experiences providing digital humanities project support. Responses indicate that while most libraries provide digital services, often this is done in an ad-hoc way, with chronic understaffing and underfunding [Bryson et al. 2011]. Similarly, for their OCLC report "Does Every Research Library Need a Digital Humanities Center?", Jennifer Schaffner and Ricky Erway consulted DH scholars and attended digital humanities conferences to identify scholars' research needs. Their final report provided library administrators with recommendations for aiding digital humanities scholars with their projects [Schaffner and Erway 2014].

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However, several scholars have provided critiques of this service approach, focusing on power imbalances inherent in the academy between librarians and scholars. Trevor Muñoz problematizes the idea that librarians should be seen in a service role for scholars doing digital humanities research. He argues that library administrators often defend library investment in DH projects as a way to show the library's value, justify its existence, and expand funding for other essential library functions. However, he argues that "digital humanities research [is] core to the theory and practice of librarianship in its own intellectual terms rather than as a useful lever in some temporary tactical maneuver" and should instead be a "source of ideas" for librarians on its own [Muñoz 2016]. Dot Porter points out that librarians themselves may be doing digital humanities work, and that setting up digital humanities scholars in contrast to librarians may not be accurate or fruitful [Porter 2014]. Bethany Nowviskie discusses the "strong service ethic" that remains a key part of library culture, but describes how it can place librarian-practitioners and library resource allocation at a significant disadvantage [Nowviskie 2013]. If a librarian's goal is to provide "self-effacing service" while "not distracting the researcher for his or her work," this can ultimately lead to a misleading "smooth, professional veneer over increasingly decrepit and under-funded infrastructure – effectively...hiding the messy innards of an organization from one's faculty," who might otherwise be "a library's strongest allies" [Nowviskie 2013, 58].

Miriam Posner agrees, outlining key ways library collaborations in the digital humanities are undermined by the structure of academic libraries and the frequent lack of resources and institutional support from library and university administration. Posner argues that "it can be very challenging for a librarian charged with 'supporting' a project to dissuade a faculty member from barreling ahead with a half-baked idea," in part because of power differentials built into academia between librarians and scholars [Posner 2013, 46]. A recent study of librarians active in DH by Molly Dahl Poremski shows that these issues continue to exist: "The current landscape of DH librarianship shows a profession that is not entirely prepared to meet the needs of its users. [...] Given the nature of our profession, we rise to meet this

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challenge with enthusiasm, even if our levels of funding and support may not be as high as our hopes. DH librarians appear to be making do with what they have available to them but require additional aid, both institutionally and professionally" [Poremski 2017, 149].

Another key line of criticism has focused on library work in the digital humanities sphere as *emotional labor* or *feminized labor*, in which the structures and hierarchies in place that mark library work as service work disincline other scholars from seeing librarians as peer collaborators [Shirazi 2014]. Building on this, Logsdon, Mars, & Tompkins explore ways that librarians, as intermediaries between expert and novice researchers, and as people who have a wide breadth of knowledge in research skills, tools, and disciplines, can be a huge asset in DH collaborations. However, in spite of this occupation of liminal space, and in fact because of it, librarians often must provide emotional labor in the context of collaborating with digital humanities researchers, by, for example, "appearing enthusiastic about projects that you suspect will be too unwieldy to succeed given the time and human resources available and knowing how to manage the proposer's expectations without damaging their enthusiasm for the digital project," or "maintaining a professional demeanor even when your expertise is marginalized in a given project" [Logsdon et al. 2017, 164].

Though these studies and analyses problematize the "service model" of librarianship, they do not attempt to assess how digital humanities scholars or information professionals interpret or navigate these power dynamics within the context of their specific projects or institutions.

Best Practices, Case Studies, and Surveys

The bulk of literature around digital humanities collaborations focuses on case studies and the development of best practice guidelines. For example, scholars have described collaborations in pedagogy, instructing students on the use of TEI [Green 2016]; in the development of scholarly digital editions [Clement et al. 2013]; or in managing a large-scale digitization project [Braunstein et al. 2015]. Many of these also share best practices or lessons learned, while sharing any specific roadblocks or difficulties noticed during the project [Lorang and Johnson 2015] [Vinopal and McCormick 2013]. [1]

Another prevalent theme in the literature pertains to the role of digital humanities centers in fostering collaborations between librarians and subject faculty. For example, Rosenblum and Dwyer outline their experiences as a faculty member and librarian co-leading a digital humanities center at the University of Kansas, and offer best practices for maximizing the effectiveness of collaborating across disciplines in this way. Interestingly, the university-wide task force that initially suggested a dual-leadership model in this case had envisioned a very clear breakdown of responsibilities: the leader drawn from humanities faculty would be responsible for "the scholarly contribution of research projects and educational programs," while the librarian would "focus on the digital realization of scholarship and the access, organization, and preservation of sustainable digital research content working with various campus partners" [Rosenblum and Dwyer 2016, 114]. As the authors assumed their leadership roles, however, they did find that the division of labor was much less clear and explicit as initially expected, and they collaborated on many, if not all, tasks [Rosenblum and Dwyer 2016, 122]. This may be an example, then, of a situation in which library and faculty collaborators act more as peers.

Several researchers have conducted surveys or interviews with collaboration partners to get a sense of the nature of collaborations and touch on key issues that arose. Poole and Garwood interview participants in several international-scale, grant-funded collaborative digital humanities projects. They determin that while very few information professionals were explicitly listed as members on project teams, in almost every case information professionals performed essential functions on the project. They conclude, among other things, that "librarians [and] archivists' work remains largely invisible in these projects. It must be made visible to exploit existing and to provide evidence for additional resources" and "infrastructure must be leveraged and policy developed or clarified for optimal collaboration between librarians and DH" [Poole and Garwood 2018, 818].

In a similar vein, Alix Keener interviewed pairs of subject faculty and information professionals from several institutions from the Center for Institutional Cooperation (CIC) collaborative. In this survey, faculty and librarians were asked a

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series of questions to elicit their notion of the role of librarians in digital humanities work. Key findings include the fact that many faculty feel that support for digital humanities work is much more mature and institutionalized in the library than in their home academic departments; meanwhile, the librarians interviewed did not feel that digital humanities were nearly as universally supported in their own library departments. Keener speaks to the question of librarian-as-service-provider versus librarian-as-peer, stating that librarians are perceived as peers and colleagues by their faculty colleagues and report feeling like peers to those colleagues themselves, though participants were generally aware of tensions about the inclusion of librarians in DH work [Keener 2015]. Interestingly, several respondents pointed out that collaboration generally is viewed with skepticism in the humanities, whether with librarians or other scholars; tensions felt may be less a function of the fact that librarians are not subject faculty, but instead the fact that collaborations are viewed with some disdain in the humanities world, while they tend to be more supported generally within the digital humanities community.

After consulting the literature, I determined that while collaborations between digital humanities scholars and information professionals had been studied within limited parameters (e.g., project teams at large institutions with digital humanities infrastructure, as in Keener, or internationally, as in Poole and Garwood), collaborations occurring within and across a wider spectrum of institutions, particularly smaller institutions with limited resources, required further study. In addition, the literature describing perspectives on collaboration from digital humanities scholars is limited, though some scholars have theorized about labor imbalances across the academic institutions and about challenges stemming from administrative support (e.g., Posner 2013 and Nowviskie 2014). My research was informed by my own positioning and background as a digital archivist in a small but developing university digital library program. In my own career, I have found that resources and institutional support often play a significant role in the ability of librarians and archivists to initiate and participate in digital humanities projects of any kind, and have primarily seen information professionals function in an advisory or collaborative capacity when asked to support projects initiated by research or subject faculty. My personal experience, therefore, supports findings by Posner and Nowviskie as outlined above, but I desired to test whether information professionals in a variety of institutional settings had had similar experiences, and to determine what circumstances breed successful collaborations. I therefore designed a large-scale study to investigate how IPs and scholars perceive, develop, and assess their DH collaborations and the degree to which the collaborations are considered successful.

Survey Methodology

To investigate digital humanities collaborations among a variety of practitioners, a survey was developed with a total of 33 questions. The full survey can be viewed in Appendix I. The survey contained some questions that were presented to all respondents, as well as questions directed only to those who identified as library/archives professionals or faculty/graduate students/alt-academics in subject areas. Other respondents (such as administrators and IT professionals) were presented with a subset of these questions as well. The survey was distributed via online lists such as the Society of American Archivists listsery, Code4Lib, the UVictoria's DHSI list, and HASTAC, in order to achieve a wide array of participants in both the library-affiliated and subject faculty worlds. The online survey methodology was selected because of its ease of implementation and its ability to reach a very wide cohort of practitioners [Vehovar and Manfreda 2017]. The survey was available between August 24 and October 5, 2016, and 508 responses were collected during that time. Of these, 242 surveys, or 47.64%, were completed in full. As respondents were permitted to skip questions in the survey, I accepted all submitted surveys, and analyzed each question based on the total number of valid responses submitted for that question. I used Microsoft Excel to view and analyze the data.

Many of the survey questions were free-text; respondents could write in as much or as little information as they wanted, rather than choose from a list of responses. For these questions, I looked for recurring themes in the answers and calculated how many respondents mentioned the most frequent themes in their statements.

During my analysis of the results, several errors were discovered in the structure and internal logic of the survey. In some cases, respondents were given the opportunity to answer questions for which they were not the intended audience. For example, in one case, I intended to ask archives and library professionals about their plans for long-term preservation of digital projects, but the question was presented to all respondents. In these circumstances, I separated

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out the answers provided by the intended audience and analyzed those; if the answers provided by the erroneous recipients proved to be useful, I analyzed them separately and reported it as such. Also, a number of respondents (60) answered that they did not collaborate on the project they were describing; I chose to remove those responses from my overall survey analysis, as the focus of this project is on collaborative projects specifically.

Survey Results

Participants

Of the 508 survey responses, nearly 48% identified themselves as an archivist, librarian, or a graduate student in either of these areas. Nearly 34% identified themselves as a faculty member (20.35%) or graduate student (13.31%) in a subject area outside of library or archives. Of the remaining respondents, approximately 10% self-identified academic researchers, administrators, or IT professionals. For the purposes of this article, I will distinguish between two groups: information professionals (IPs), which consist of librarians, archivists, and graduate students in those two disciplines (48% of the total); and other digital humanities scholars (DHs), which consist of subject faculty, students in subject disciplines, alt-academic scholars, administrators, and others (52%).

Studying and comparing the responses of information professionals to those of other types of digital humanities scholars does highlight, and perhaps reify, a binary between those two groups. As the above literature review demonstrates, information professionals conduct digital humanities research alone and in collaboration with other scholars, and casting them as distinct from other scholars poses the risk of painting them as less qualified researchers, or erasing their work from discussions of digital humanities as a field. However, as Posner argues and as the survey results will show, information professionals face different workloads than other DH scholars often do, especially those scholars for whom teaching and research is a primary responsibility [Posner 2013]. Further, administrative structures and funding requirements, as well as expectations of a "service orientation", work differently in library and archives departments than in academic departments (or, indeed, in information technology departments or digital humanities centers). Grouping and comparing responses as I do below allows me to explore how these realities affect the experiences of the collaborative partners.

I also inquired about the subject specialties of the faculty and graduate students responding to the survey. 43.25% of respondents said that English, literature, foreign language literature, writing, or affiliated disciplines were their area of expertise. 17.85% indicated history, while an additional 3.78% specified Medieval history or studies. Remaining respondents mentioned a variety of other disciplines, including anthropology, art and art history, media studies, and, indeed, digital humanities. The majority of respondents (77.24%) reported working in a college or university setting, with the next largest group employed at museum or arts organizations (7.09%). 24.66% of the graduate student respondents reported that they were enrolled in a digital humanities track or major. In this survey, I did not ask respondents whether their institution had a standalone Digital Humanities Center; this would be an interesting avenue for further research.

The vast majority of respondents worked on at least one digital humanities project: 18.45% had worked on one project, and 73.02% had worked on more than one. I instructed respondents who had worked on multiple projects to consider their most recent project when answering the survey questions.

One line of inquiry not included in this survey pertains to the employment status of respondents: or whether they held a faculty, administrative or staff role; if they were faculty, whether they were full-time or adjunct; whether they were tenure-track or tenured; or if librarians or archivists, whether they held faculty status or staff status. Further research on how employment status affects collaborations, funding, and administrative support could be very fruitful.

Nature of Digital Humanities Deliverables

I asked all respondents to describe the DH projects they had worked on, asking them to mention deliverables and which members of the team contributed to which aspects of the project. I chose not to provide a definition for "digital humanities project" in order to allow respondents to include anything that met with their own definition of the idea. Indeed, one respondent wrote that they were not sure whether to include their project because "[a]rguably, this isn't

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digital humanities, but the phrase has been stretched so far that some people would include it in their definition – [I]'m not sure what yours is."

Many respondents described multiple projects in their response to this free-text question, or included a number of digital humanities workflows or outputs that dealt with a particular collection or theme. I collected 201 responses to this question. I analyzed the responses and flagged recurring features that were listed, such as websites, digitization projects, and application development; this analysis generated 546 features (for the purposes of this article, I will refer to these features as *data points*). For this particular question, I calculated percentages based on the number of responses; because most responses mentioned projects with several features, and some responses even mentioned multiple projects, I wanted to show how many individual practitioners mentioned particular features in their answers. The results of this question can be seen in Figure 1.

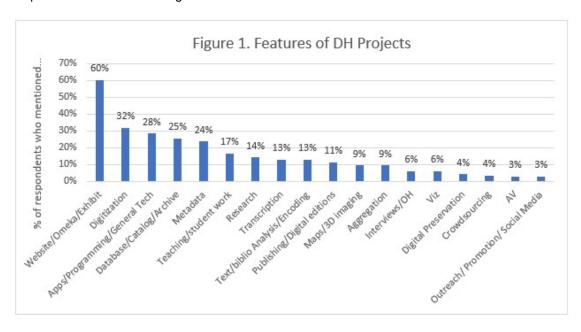


Figure 1.

For these respondents, then, a web component is key, either for delivering the results of their analysis or as the deliverable itself. Approximately 60% of respondents mentioned a website, Omeka gallery, or web exhibit as an outcome of their projects. Approximately 32% mentioned digitization of print or analog materials. Approximately 28% mentioned programming, creation of applications, use of Scalar, or other technical work. Approximately 25% mentioned creation of a database, catalog, or searchable archive, and approximately 24% of respondents mentioned metadata work. Interestingly, some hallmarks of digital humanities projects, including maps, data visualizations, and textual analysis, were mentioned by fewer than 15% of respondents each.

Indeed, because the framing of the question focused primarily on deliverables, few respondents went into depth discussing their research methodology, subject selection, or critical approach. This is a blind spot in the research design: perhaps because of my information-professional approach, I focused on the research products rather than the lines of scholarly inquiry advanced by these collaborations. In part, this serves to hide the intellectual contributions of all respondents, particularly information professionals, who may have fewer fora to showcase their research output [Posner 2013]. Future research might inquire and analyze the scholarly dialogue between collaborators in IP and DH partnerships.

Initiating the project: Beginning the Collaboration

Next, I wanted to identify who initiated collaborative projects: did subject specialists reach out to information professionals, or vice versa? How did these collaborations begin? When I asked information professionals about their collaborations with academic colleagues, 61.93% of the total responses (197) mentioned collaboration with faculty or

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professional colleagues from their own institution; 11.17% of responses mentioned that they worked with graduate students from their own institution; 16.24% reported working with faculty from other institutions; and 1.52% described working with graduate students from another institution. 9.14% of respondents mentioned that they worked on their project(s) alone. [2] Again, these respondents were removed from the remainder of the survey at this juncture.

Information professionals collaborated with	Percentage of Respondents	n=
Faculty/ Professional colleagues, same institution	66.03%	103
Faculty/ Professional colleagues from another institution	12.82%	20
Students from my institution	10.90%	17
Alone	9.62%	15
Students from another institution	0.64%	1
Total	100.00%	156

Table 1. Table 1. IP Collaborations

When I asked academic colleagues about their work on projects with library and archives professionals, their responses were as follows. Out of 231 respondents, 37.23% said they worked with both archivists and librarians. 20.35% reported that they worked with librarians; 11.26% reported that they worked with archivists; and 7.36% said they worked with information professionals but were not sure whether they were librarians or archivists. 23.81% reported that they worked on their projects alone. Of course, as this survey was clearly described as being designed to study collaborative projects, it is no surprise that those who took the survey had collaboration experience. (Again, at this juncture of the survey I removed any additional respondents who reported working alone on their projects.)

DH Scholars collaborated with	Percentage of respondents	n=
Colleagues in both areas	37.23%	86
Librarians	20.35%	47
Alone	23.81%	55
Archivists	11.26%	26
Yes, but not sure which	7.36%	17
Total	100.01%	231

Table 2. Table 2. DH Collaboations

Next, I asked the DH scholars and the information professionals whether they initiated the project themselves, or were invited to join by a colleague. The standout finding here is that almost 78% of the time, faculty respondents said that the project was their idea, and they reached out to their information professional colleagues to join them. For the archivists and librarians who responded, over 50% of the responses indicated that faculty colleagues initiated the project (51.56% of responses for archivists and 53.70% for librarians). For the archivists and librarians, responses ranged between 19 and 25% for initiating the project on their own or for coming up with the project in tandem with their colleague. This finding shows that for these respondents, academic researchers are frequently initiating collaborations with information professionals for some portion of their project.

This response is underscored by the next set of questions, displayed in Table 3. I asked anyone who responded that the project had been initiated by a colleague how they came to be involved. First, approximately 72% of the respondents to this question were information professionals, which confirms the findings in the previous question. I broke the responses down: for information professionals, approximately 27% were simply asked to join by colleagues; approximately 18% had a skill necessary to complete the project; approximately 18% have jobs that explicitly include DH projects in their scope; approximately 9% were part of a staff or team that were assigned the project; approximately 9% applied to a job opening that included work on that project; and approximately 7% invited themselves onto the team/volunteered to

Method	Information Professionals (n=44)	DH Scholars (n=17)
Part of staff/team that was assigned specific project	8.9% (n=4)	15.8% (n=3)
Had Necessary Skills/In a role that is required to be looped in	17.8% (n=8)	21.1% (n=4)
Other	13.3% (n=6)	10.5% (n=2)
Invited Myself	6.7% (n=3)	21.1% (n=4)
Was Asked	26.7% (n=12)	15.8% (n=3)
Applied for Job Opening/Internship	8.9% (n=4)	10.5% (n=2)
Job Explicitly Includes DH	17.8% (n=8)	5.3% (n-=1)

Table 3. Table 3. Ways Collaborators Joined Projects They Did Not Initiate

In contrast, when I broke down the responses for academic and professional colleagues, the responses were as follows: approximately 16% were simply asked to join by colleagues; approximately 21% had a skill necessary to complete the project; approximately 5% have jobs that explicitly include DH projects in their scope; approximately 16% were part of a staff or team that were assigned the project; approximately 11% applied to a job opening that included work on that project; and approximately 21% invited themselves onto the team/volunteered to participate. 11% had another response.

Information professionals are still much more likely to be asked to join a project than subject faculty and other academic colleagues. Academic colleagues were much more likely to invite themselves to join a project of interest to them. Both IPs and scholars were roughly equally likely to be asked to join because of a skill they possessed. IPs were much more likely to have a job that explicitly includes DH work, but academic colleagues were much more likely to be part of a team assigned to a DH project. These responses demonstrate that scholarly researchers outside of the library have more opportunities and flexibility to take on DH projects if they are interested in doing so. Information professionals may be more likely to be constrained by their role, or limited by time and resources, as we will see later in this study; this may prevent them from being the primary motivator in establishing DH projects. However, another factor to consider is cultural; the longstanding perception of librarians and archivists as service-providers may be entrenched enough that scholars are more likely to draw on IP's expertise than the other way around. Further research could examine constraints on when information professionals initiate projects.

Successes and failures

Both DH scholars and information professionals were asked to reflect upon their interactions with colleagues, and asked to suggest what could be done to improve similar (or future) collaborations. 57.89% of the DH scholars responded that the collaboration was successful, with another 31.58% responding that they had mixed results. Only 3 responses (2.63%) were a clear "no" (the remainder were coded as N/A, other, or that the project was still ongoing). Those scholars who felt they had a mixed experience most commonly mentioned that they wished the library/archives staff had more time or resources to share. Several also mentioned that they would have liked more clarity about project planning and timelines; more training so they could do more of the work on their own; or more of a mutual understanding around key project terms like *metadata*, *preservation*, and *sustainability*.

The information professionals' assessment was a bit more complex. 82 information professionals answered this question. Of these, 28.05% said it was a successful collaboration; 8.7% said it was not; 58.54% said it was a mix; and 3.66% said N/A or other. I then broke the "mixed" responses into categories, to further analyze their explanations; these responses were parsed into 68 data points. 16.18% of the data points mentioned issues around communication, responsiveness, and expectation-setting with their faculty counterparts. 10.29% mentioned that the project would be more successful with increased funding. 8.82% mentioned issues around leadership, coordination, and decisionmaking;

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8.82% mentioned the lack of familiarity on the part of faculty with IT or librarianship/archival work and what would be possible to accomplish; and another 8.82% mentioned the need for improved institutional support (aside from funding). For example, one librarian wrote, "Collaboration with my immediate colleagues was/is successful, but the way our projects fit into the overall library structure is still very tricky. [Our digital project has an] unfunded mandate and this model is not sustainable, in terms of staff time required. So, it's not that collaboration could be better but the infrastructure around the collaboration needs to be better." Another librarian wrote, "Collaboration with faculty was good. Getting buy in from library admin is harder."

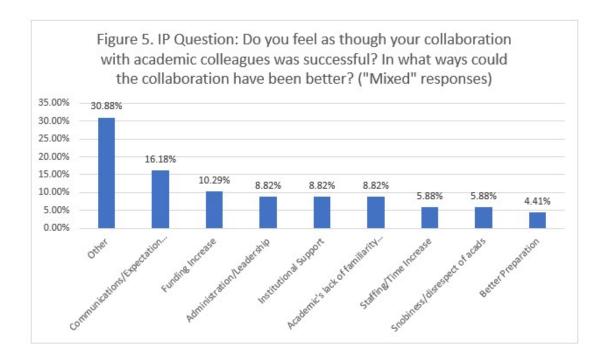


Figure 2.

From these responses, information professionals seem to be frequently turned to for support and labor, and they would like to be able to do these digital humanities projects. However, they may not have the time, resources, or support to do so. Further, many respondents mentioned that faculty colleagues had different expectations than they did around what was possible via their collaboration: how much time it would take, how responsive each party would need to be, and what kind of IT or library work was feasible and what was not. Further research could highlight the hurdles, especially administratively, that prevent information professionals from working on digital humanities projects.

Interestingly, 5.88% also mentioned that they felt some snobbery or dismissiveness on the part of faculty against their information professional counterparts. One archivist said, "It was hard for academic colleagues to acknowledge the fact that I am myself also faculty and also have research interests to pursue.... They didn't understand why I was driving the project, and thought it needed to come out of a pet question or topic under study by a 'serious' scholar. I was studying user response to data visualizations. And I got an awesome digital humanities project out of it." It is important to note, however, how few responses mentioned this kind of tension.

I also asked several questions pertaining to issues around resource allocation, which provide a preliminary snapshot into the funding associated with these respondents' DH projects. First, all respondents were asked, in a free-text question, "How was the project funded?" Each respondent could list as many responses as they desired; phrases were coded and collected to yield 272 data points. Of these, 36.76% of responses mentioned receiving no additional funding at all to complete the project; the project was funded only out of regular salary or department funds. A similar percentage, 37.78%, of responses included a mention of funding by external or governmental grants (respondents who identified as DHers were more likely to mention that they had external funding: 41.28% of DHers mentioned external or governmental grants in their responses, whereas only 32% of IPs did). Additional funding for these projects came in the form of internal (departmental or institutional) grants. Responses across these categories were consistent between DH

and IP respondents, aside from the difference in those reporting external grant funding.

Next, I asked all respondents, "What extra resources (eg staff, time, equipment), if any, did completion of the project require?" This, too, was a free-text question, and answers were parsed and coded. Out of a total of 356 responses, the most frequent responses were staff time (specifically existing staff time reallocated from other projects and responsibilities) at 35.92%; acquisition of equipment or software at 24.14%; and additional staff, volunteer or students hired, at 18.10%. Response rates for each of these categories were similar between DH and IP respondents.

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Lastly, due to my interest in institutional support for information professionals participating in DH work, I asked only the IP respondents to "Please describe any support, interest, or roadblocks you faced from supervisors while taking on this project." Out of 76 respondents, 57.89% reported that they received support from their supervisor. Respondents were also permitted to add a free-text explanation to this answer; the most popular issues they reported supervisors mentioning were concerns around the time it would take to complete the project (15.79%); IT support (9.21%); issues around funding (9.21%); and issues around copyright (3.95%).

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These results provide some preliminary context for the key issues collaborative partners face in their work in DH. Many projects were supported by external grant funding. A lot of the projects were completed using existing staff and staff time, rather than via an injection of additional resources or staff. Many projects were not awarded any additional funding at all. A slim majority of information professionals reported support from supervisors, but supervisors mentioned concerns about the investment of time and resources required to participate in these DH projects. As a practicing information professional, these results suggest to me that while there is a lot of interest in this work among scholars, information professionals, and supervisors, resources may be limited to complete it, and for information professionals in particular, projects of this type that may be added to more established workloads represent a resource crunch rather than an inducement to build capacity. Further research is necessary to understand the varied experiences of library scholars and other researchers, as well as the responses and support provided by their administrative and institutional contexts.

The role of IPs, according to DHers

Next, I wanted to explore the ways digital humanities scholars outside the library perceived the role of information professionals in contributing to their shared projects, and how that might have changed as a result of working with an information professional. I targeted a series of questions to the digital humanities scholars about their perceptions.

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First, I asked, "Has your understanding of the work of your archives/library colleagues changed in any way? Please explain." There are 69 free text answers to this question. Most people responded that they learned something new (60.87%), and the majority of these new things can be characterized as positive. Examples include: "I have more respect for their skills and knowledge"; "I have a better understanding of the different roles of librarians/archivists"; and "I have more ideas about collaborating with them in the future." Nearly 57% of the answers in the *lessons learned* category pertain to the subject researchres learning more about what goes into library work. For example, one respondent wrote: "I wasn't aware before of the 'mismatches' between archival metadata (like EAD) versus the kinds of metadata other academic researchers need for searching and retrieval." However, not all the lessons learned were positive: some people (nearly 16%) learned lessons they described in negative terms, such as that information professionals "don't have good technical skills" or that they were not aware of how understaffed the libraries were. In addition, some responded that they were already well aware of what information professionals do from having worked with them extensively in the past.

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Next, I asked DH scholars to explain whether they felt it was the role of archivists and librarians to prepare analog materials for use in digital humanities projects, such as by digitizing text or adding geodata to maps. Many archivists and archival repositories are seeking ways to make their collections more visible and usable by seeking to participate in such digital projects; I was curious to see whether DH scholars expected this work from IPs. The answers to this question were, again, a mix. 37.35% of respondents said yes; 10.84% said no; and 38.12% said they were unsure, or that it wasn't necessarily in the purview of archivists and librarians.

Some respondents added comments or explanations to their response; I parsed these into 136 data points for analysis. 8.82% of the responses mentioned that this work should be done as a collaboration between information professionals and scholars; and 4.41% mentioned that IPs, on their own, would not know what should be digitized or prepared for DH projects, and should rely on scholar-driven research to develop their projects. This kind of answer points to some interesting contrasts in training and expectations among IPs and DH scholars. Many information professionals are experienced with selecting materials to highlight, and many are subject specialists themselves. Further, library and archival training can help teach IPs to identify materials that would be of interest to scholars. In fact, within the last fifteen years, the archival community has focused resources on processing and showcasing "hidden collections," those materials that might not have been yet made visible to users due to resource or time constraints. From the perspective of IP training, digitizing collections and making them accessible can be a way to draw the attention of scholars and develop new projects around their holdings. However, resource constraints often limit IPs' ability to do this kind of work.

DH scholars, on the other hand, might have an area of particular interest to their own scholarship. Their work is project-based and tied to specific corpora that would support their own research. As one respondent put it, IPs shouldn't preemptively digitize materials because "often they don't know what might be of interest to scholars." As another put it, "I don't know how [to] help librarians know which materials to prioritize, and it would be a shame to invest an enormous effort into digitizing, collecting, or correlating data that then never gets used." However, it is an expected part of an information professional's purview to perform research and investigate what content is most suitable for digitization, if resources permit.

Next, I asked scholars whether they felt that it was the role of information professionals to "preserve and make accessible in the long term digital humanities projects created by scholars like yourself?" I had 80 responses to this question; 61.25% said yes, this is within the purview of IPs, 7.5% said no, and 31.25% said not sure or not necessarily. A number of these respondents provided more detail in their explanation; I parsed these into 28 data points, and the most popular answers were as follows. 21.43% of the answers mentioned that IPs should continue providing access to digital humanities projects like they have always done with other resources, like books. 21.43% mentioned that information professionals doing this sort of preservation work preserves the relationship between a scholar, their work, and their institution; and 14.29% mentioned the idea that libraries have the resources or infrastructure necessary to do this sort of preservation. 14.29% argued that information professionals and digital humanities scholars should be having conversations and what sorts of work should be preserved and why. Overall, most scholars reported support for the notion that information professionals should be involved in this work.

To conclude this section, I asked DH scholars, "How can archivists or librarians help your work in future digital humanities projects?" Responses varied widely. I parsed the responses into 109 data points, and they break down as follows. Most respondents (24%) requested help with technical and library skills. 13.76% mentioned an interest in initiating or improving more collaborations. A number of respondents asked IPs to "share," "collaborate," "connect," and "contribute" (12.84%) to overall projects. 4.59% of the answers highlighted help with metadata specifically. 4.59% mentioned that time and funding hurdles can prevent DHers from capitalizing effectively on IPs' expertise. Other noteworthy themes: some DH scholars noted that IPs are key for providing access and acting as gatekeepers to particular materials (2.75%), with another 5.5% asking IPs not to be "obstructive" and to have a better attitude about sharing resources and listening to the needs of DHers. 2.75% said that IPs need to improve their own technical skills before they can be helpful. And 12.84% simply said wanted archivists and librarians to keep positively supporting their work: IPs should "keep being awesome;" they should "keep doing exactly what they have been doing, which is being well-trained, interested colleagues open to new form[s of] digital scholarship;" and noting that "librarians and archivists are historians' best friends:-)"

The role of IPs, according to IPs

Turning now to the perspective of information professionals on their role in digital humanities projects, I asked them a series of questions about their experiences. First, I asked archives and library respondents whether they felt digital humanities projects were part of their role. The results were overwhelmingly positive: 55.84% said yes, that these projects were explicitly part of their role; another 24.68% said they were somewhat or tangentially related to their role;

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and another 3.90% said they built digital humanities projects into their role. Only 14.29% said DH projects fell outside the scope of their work. These answer demonstrate that information professionals now expect to do this work as part of the course of their librarianship.

I then asked information professionals about the ways they might have altered their workflows to accommodate the needs of DH projects. First, I asked, "Did your work on the project contribute to any of the traditional archival life cycle steps, such as Arrangement, Description, Preservation, or Providing Access? Please explain. (Examples include digitizing analog text for the project that could provide increased access, or taking steps to ensure digital preservation of a website created as part of a DH project.)" I parsed the results to yield 122 answers. Most respondents highlight ways they provided all or most of these. Some used the word "digitization" in general, but it's not clear whether they felt this was associated with access, preservation, or another step that I highlighted; I classified those responses as *other*. 34.43% of the responses mention access; 18.85% mention preservation; 24.59% mention arrangement/description; 12.30% were classified as *other*, and the remainder (9.84%) said No or N/A.

For the next question, I asked information professionals, "Did you change any of your standard archival workflows to accommodate this project, or in anticipation of future similar projects? (For example, did you switch to higher quality OCR software to support text mining? Did you embed geographical metadata into a digitized map to allow for geodata visualizations?)" First, I broke the 69 responses from information professionals down into *yes* (44.93%), *no* (36.23%), *N/A* (8.7%), and *other* (5.8%). A number of the respondents explained their answers; I parsed these answers into 108 responses, the most popular answers of which broke down as follows. 9.82% made changes in the realm of metadata; 7.14% made changes in their work with mapping and geodata; 4.46% made changes to their digitization workflows; 2.68% changed their staffing to accommodate the new projects; 1.79% made changes with OCR; 1.79% changed their data visualization procedures; and 1.79% reported that they didn't have standard workflows in place before this project, but the project helped to implement them.

Finally, I asked information professionals whether they planned to provide long-term access or preservation for this project. There were 69 respondents. The vast majority (64.38%) said Yes, they plan to ensure ongoing access or preservation in some form or fashion, with another 12.32% percent saying that they are still working it out. 15.07% percent said no, though several of these said it's because their projects were pedagogical in nature or proofs of concept, so they were not designed to be kept for the future. 5.48% responded in some other way.

Conclusions

The survey results and analysis provide a number of conclusions and suggestions for further research. First, it seems clear that collaborations between subject researchers and information professionals are happening, and happening frequently. Secondly, while information professionals generally see digital humanities projects as within their purview, they are not initiating these collaborations nearly as frequently as their digital humanities scholar colleagues. Why are the information professionals not initiating as often? This is an area for further research, but responses in this survey suggest that information professionals are often so limited in their available staff time and resources that they will work with a colleague when approached but are not able to prioritize these projects from within their own departments.

Next, this survey lends support to Rosenblum and Dwyer's (2016) argument that in collaborations between subject researchers and information professionals, tasks do not necessarily break down into expected categories in which the subject expert is in charge of the academic research questions and interpretation, and the information professional is in charge of tools, implementation, and support. Based on my analysis of the projects described here, information professionals and subject specialists shared many tasks, and sometimes did tasks outside of what would traditionally have been their expected purview. For example, one academic researcher wrote, "My archivist colleague participated in the design of metadata fields, tutorials for appraisal, finding additional sources of funding. I was responsible for the design and development of the digital archive, outreach, funding and securing a home for it." In many projects, however, archivists and librarians are serving in a more "support" role, doing project management, digitizing materials, working on metadata, and learning and teaching new tools or software products.

This survey revealed intriguing responses regarding the impressions information professionals and digital humanist

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researchers had of working with each other. While, generally speaking, the researchers felt that their projects were successful and the information professionals were supportive colleagues with whom they enjoyed working and whose expertise they valued, responses from the information professionals were more mixed. Many felt that they had difficulty working collaboratively with researchers, had trouble setting appropriate expectations and communicating clearly. This may support Schaffner and Erway's contention that collaborations might be difficult because many humanities scholars are very used to working on their own, and may not have much practice successfully negotiating a collaborative research project [Schaffner and Erway 2014, 8]. On the other hand, many information professionals responded that they felt their collaborative work was very successful, but it would have been improved with more administrative buy-in or support in the form of staff time, funding, or other resources.

The survey results indicate that these collaborations, on average, tend to be viewed as successful and mutually beneficial by both parties, especially when institutional support is available. However, information professionals do report more difficulties with the collaboration, with resources, and with administrative buy-in. Institutional conditions must adapt to support more of these projects, and in particular funnel resources toward archivists and librarians to do this work and support long-term sustainability of these projects.

Full Survey

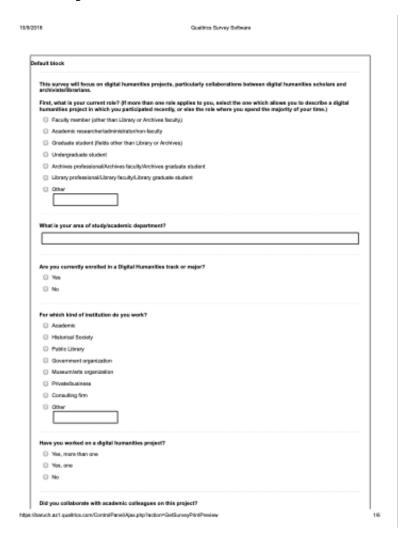


Figure 3.

Notes

[1] Several of these articles mention "digital curation" as a key role for information professionals to play in these collaborations; Poole and Garwood describe this role as being responsible for "the active and ongoing management of data [...] over its entire lifecycle to make it as

highly-functional as possible, especially for sharing and reuse." [Poole and Garwood 2018].

[2] I asked respondents throughout the survey to answer questions based on their most recent collaboration or project, but many respondents wrote about experiences with multiple projects nonetheless. In those circumstances, I parsed the response and tallied each part individually. For example, if a respondent wrote that they worked with a subject faculty member on one project and with a graduate student on another project, I logged one response for a faculty collaboration and another response for a graduate student collaboration. Totals and percentages reflect this approach throughout the article.

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