

2021

## “Quietly Incomplete”: Academic Historians, Digital Archival Collections, and Historical Research in the Web Era

Donald Force

*University of Wisconsin - Milwaukee*, [force@uwm.edu](mailto:force@uwm.edu)

Bradley Wiles

*University of Wisconsin - Milwaukee School of Information Studies*, [bjwiles@uwm.edu](mailto:bjwiles@uwm.edu)

Follow this and additional works at: <https://elischolar.library.yale.edu/jcas>



Part of the [Archival Science Commons](#)

---

### Recommended Citation

Force, Donald and Wiles, Bradley (2021) "“Quietly Incomplete”: Academic Historians, Digital Archival Collections, and Historical Research in the Web Era," *Journal of Contemporary Archival Studies*: Vol. 8 , Article 18.

Available at: <https://elischolar.library.yale.edu/jcas/vol8/iss1/18>

This Article is brought to you for free and open access by EliScholar – A Digital Platform for Scholarly Publishing at Yale. It has been accepted for inclusion in *Journal of Contemporary Archival Studies* by an authorized editor of EliScholar – A Digital Platform for Scholarly Publishing at Yale. For more information, please contact [elischolar@yale.edu](mailto:elischolar@yale.edu).

---

## **“Quietly Incomplete”: Academic Historians, Digital Archival Collections, and Historical Research in the Web Era**

### **Cover Page Footnote**

Special thanks to Molly Fischer.

## “QUIETLY INCOMPLETE”: ACADEMIC HISTORIANS, DIGITAL ARCHIVAL COLLECTIONS, AND HISTORICAL RESEARCH IN THE WEB ERA

In a 2019 interview with *Popular Mechanics* magazine, historian Robert Caro discussed his unapologetic preference for analog research in the digital age—handwritten notes, pages produced on typewriters, and immersion in the original paper documents one can only find onsite at an archives repository. Caro, the Pulitzer Prize–winning biographer of former U.S. president Lyndon Johnson, at least partially bases his approach on skepticism toward digital intermediaries: “I feel there’s something very important to be able to turn the pages yourself. I don’t want anything standing in between me and the paper.” He also points to the unfiltered nature and durability of physical archives as a key to his method of research, which allows him to investigate history by looking at the relationships among the documents and records in a collection over time. “What’s more worrisome to me is that, when you talk about digitization, somebody has to decide what’s digitized,” Caro notes. “I don’t want anyone deciding what I see.”<sup>1</sup>

Although Caro’s digital-averse approach represents a tried-and-true method for historical investigation, it is also an increasingly uncommon one. In response to the interview, a conversation erupted on Twitter regarding digital history and archival research, and whether Caro should be condemned or praised for his embrace of traditional methods in the face of digital ubiquity. The strongest sentiments were opposed to Caro’s real or perceived privilege: as a famous historian ostensibly with ample time, money, and connections to do his research, he likely bypasses the access and availability issues that early career history scholars or others without his stature often face. When a notable voice like Caro’s denigrates digital surrogates of original materials, the argument goes, it contributes to the marginalization of these resources and the scholarly work they help to produce. But the criticism of Caro was largely of the “old man yells at cloud” variety, indicating a generational clash with a younger, digital-savvy professional cohort striking out against the shrinking but still influential old guard of American historical scholarship.

The fact that digitized historical materials were at the center of this skirmish raises the larger issue of preferences for digital archival collections use among historians. Several previous studies have examined the needs, desires, and motivations behind historian users of digital archival collections, as well as their criticism of archival enterprises in the digital world. The problems of volume, ephemerality, and specialization all converge for historians in digital archives. This has led to weariness and suspicion toward these resources, especially on the part of traditionalists who largely echo Caro’s views.<sup>2</sup> However, there does not appear to be much scholarly discussion on the degree of use and the impact digital archival collections have on historical scholarship. The study described here begins to fill this gap by examining perceptions on and use of digital archival collections among a sample group of historians from a single academic department.

### Background

For this study, digital archival collections are defined as digitized or born-digital collections of archival materials available online. One of the primary purposes of digital archival collections (and

---

<sup>1</sup> Hildebrandt, “Historian Robert Caro on the Importance of Analog Research.”

<sup>2</sup> Weller, *History in the Digital Age*, 1–5.

digital libraries more generally) is to provide a broader range of access to materials.<sup>3</sup> Digital archival collections are aggregations of digital archival objects, which are electronic representations (or digital surrogates) of archival materials. Often these are digitally imaged copies of physical records but they may also include items that were created in an electronic medium. In either case, like their physical correspondents, digital archival collections are mostly original, unique, and unpublished materials resulting from everyday human and institutional activity. The digital archival collections users typically encounter online are frequently compiled to provide access to carefully curated materials and usually represent a small portion of an institution's overall physical and digital holdings.<sup>4</sup>

Since the early 1990s, many institutions have created digital archival collections with a “if we build it, they will come” mentality. But the extent and motivations of use for traditional and emerging patron groups are constantly evolving, and the factors or conditions that characterize use vary wildly in the web environment. As part of a broader study investigating how academic historians utilize and interact with digital archival collections, this essay details the findings of a pilot project involving a citation analysis of publications by history department faculty at a medium-sized Carnegie R1 university, followed by a survey distributed to these faculty members and semi-structured interviews with select respondents. This exploratory qualitative study attempts to discern the level and characteristics of digital archival collection use by reviewing this professional cohort's recent collective publication record and gathering firsthand accounts about the benefits, limitations, challenges, and utility of digital archival collections in their research.

We focused on academic historians for several reasons. First, since digital archival collections frequently contain primary source materials that document various historical subjects, academic historians are likely to incorporate such materials into their research strategies. Second, as part of their professional duties, academic historians publish their research in a variety of outputs available to the public, potentially revealing the extent and types of digital archival collections and materials they use. In addition, for many decades leading up to the current digital era, the audience for archives was composed primarily of academic historians and other scholars who relied on archival institutions for their research. But by at least the mid-1980s, it was clear that professional historians were not necessarily the most regular or extensive archives users, which tracked with concurrent calls within the archives discipline to find better ways of understanding the growing range of user groups through more systematic research approaches.<sup>5</sup> Because archives use has become increasingly diverse, voluminous, and non-mediated, it is difficult to accurately estimate the current ratio of academic historians as a percentage of total digital and physical archives usage and usership; there does not appear to be a single comprehensive source that tracks and compiles this type of

---

<sup>3</sup> Waters, “What Are Digital Libraries?” Waters offers this definition formalized by the Digital Library Foundation: “Digital libraries are organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities.” The difference between digital libraries and digital archives is mostly in the types of materials they possess and manage.

<sup>4</sup> Ogilvie, “Scientific Archives in the Age of Digitization,” 80. According to Ogilvie, “Scholars cannot assume that material has been digitized; we must in particular beware assuming that digitized archives represent all that is available unless the archive explicitly says so.”

<sup>5</sup> Conway, “Facts and Frameworks,” 394; Orbach, “The View from the Researcher's Desk,” 30; Widener, “The Status of Users in Archival Enterprise,” 6–7.

data, but some recent disparate sources indicate that historians maintain a substantial presence in terms of archives usage, comparable to other user groups like genealogists.<sup>6</sup> In any event, historians remain a key user group for archivists because of the long and symbiotic (if also sometimes ambivalent and contentious) working relationship between the two disciplines.<sup>7</sup>

Research on various facets of historians' archives use has been featured periodically in archival scholarly literature since at least the 1950s.<sup>8</sup> In addition to the juridical, administrative, and regulatory justifications for maintaining archival collections, facilitating the study of history is almost always a top priority for repositories.<sup>9</sup> Archival operations—to the extent that they are tailored to any nonarchivist audience—are often approached with professional historians in mind.<sup>10</sup> Historians, like many other archives user groups emerging in recent decades, have increasingly embraced the web environment for all or part of their archival research pursuits.<sup>11</sup> Yet, their perspectives remain underreported, and the direct experience of academic historians with digital archival collections has not been adequately researched. This pilot study aims to provide an empirical assessment of the substantive use of these virtual resources by academic historians to better understand this patron group's needs. This study helps to establish a foundation of knowledge from which we intend to launch additional investigations about the perceptions users have of digital archival collections.

## Literature Review

A vast array of literature about the function, design, and content of digital libraries informs our understanding of digital archives.<sup>12</sup> Recently, scholars have conducted web analytic or log file

---

<sup>6</sup> “Archive of Metrics Dashboard”; Washburn, Eckert, and Proffit, *Social Media Archives*, 14. These two cited resources are examples of such disparate (and incongruous) resources. The National Archives and Records Administration (NARA) webpage lists statistical data compiled from a variety of sources including the American Customer Satisfaction Index survey. One of the data points concerns who visits NARA's website, and according to the snapshot gathered in January 2015, 15 percent of the survey respondents identified as researchers, while 27 percent identified as genealogists. The researcher category could ostensibly include academic historians (or other historians), but any of the other categories listed could as well. The OCLC report also offers only very limited insight. One of the questions asked respondents to identify their role as a researcher when using special collections. In this study, 30 percent identified as faculty affiliated with a college or university, which was the most of any single category; however, users conducting genealogical research for personal purposes or professionally amounted to around 30 percent as well. In other questions, over 50 percent of the respondents reported conducting historical research professionally and approximately 60 percent were conducting research with the intent to publish. This limited data appears to confirm that professional historians make up a substantial portion of archives usership, but it is very difficult to quantify this definitively.

<sup>7</sup> Poole, “Archival Divides and Foreign Countries?” 380, 418.

<sup>8</sup> *Ibid.*, 383–87, 390–93, 396–97.

<sup>9</sup> Cook, “Evidence, Memory, Identity, and Community,” 107–9; Duff and Johnson, “Accidentally Found on Purpose,” 473.

<sup>10</sup> Daniels and Yakel, “Seek and You May Find,” 563. For example, user studies find that trained and experienced historians show the most adeptness at navigating archival descriptive practices—which can be troublesome and idiosyncratic—mostly because of their familiarity with different types of archives gained through research experience.

<sup>11</sup> Tibbo, “Primarily History in America,” 28.

<sup>12</sup> Kelly, “Assessment of Digitized Library and Archives Materials”; Nguyen and Chowdhury, “Digital Library Research”; Toms, “Models That Inform Digital Library Design.”

analysis studies related to digital libraries while also considering their social and cultural effects.<sup>13</sup> User and usability studies have assessed the ease or difficulty users have in locating information within a digital library system, which may influence use and the citation of objects within that system.<sup>14</sup> For example, Teresa Bolger examined the citations of several digital libraries and determined that there are certain variable or controllable factors that can be identified as likely to influence the impact of digital resources, including the information-seeking behaviors of key user groups (their discovery and awareness), clarity or ambiguity of the information about a resource and its contents, impediments to access (paywalls or restrictions), ability to cite a resource, and stability of its URL.<sup>15</sup> Kris Bronstad considered references to archival collection institutions (as opposed to specific item citations) in 136 history e-books from highly cited university presses in 2012. She found that nearly 70 percent of the monographs reviewed contained at least one citation to an archival collection but only 3 percent cited digital archival collections. Although digital archival collections continue to grow, Bronstad concludes that their volume “has not yet reached the size or scope that would make them, on the whole, more useful than physical collections.”<sup>16</sup>

One possible reason why digital archival collections and their contents have not been widely cited in historical research is researcher preference for original, physical sources and a lack of trust in derivative, digital surrogates. In interviewing authors who published in the *American Historical Review*, Donghee Sinn and Nicholas Soares note that historians used and incorporated more digital archival collections into their research as their interactions with these collections increased, though they retained a clear preference for physical collections.<sup>17</sup> Some of this behavior may be explained by a disconnect between the anticipated and actual needs and skills of archival users, which becomes even more complicated in the digital environment.<sup>18</sup> As David Nicholas observes from his log analysis study of online databases, “scholars are promiscuous in information terms; around 40% of visitors do not come back regularly, if at all. What they also do, and this is partly a function of promiscuity, is ‘bounce’ or flick across the panoramic information terrain.”<sup>19</sup> Ian G. Anderson discovered that historians’ information-seeking behavior is closely tied to the genre of the source that suits their research needs, suggesting more of a collections- or content-centered approach.<sup>20</sup> Wendy M. Duff, Barbara Craig, and Joan M. Cherry affirmed the role of archivist mediation in historians’ use of archives, and Kim Martin and Anabel Quan-Haase examined how serendipity factors into historical research.<sup>21</sup> Both of these can be difficult to replicate in the digital library or digital archives service environment because of underlying factors related to expertise, experience,

---

<sup>13</sup> Bolger, “Looking Back to Move Forward”; Gao, “Beyond Journal Impact and Usage Statistics”; Gooding, “Exploring the Information Behaviour of Users of Welsh Newspapers Online”; Kelly, “Assessing Impact of Medium-Sized Institution Digital Cultural Heritage on Wikimedia Projects.”

<sup>14</sup> Dickson, “CONTENTdm Digital Collection Management Software and End-User Efficacy”; Teruggi, “Who Are the Users of Digital Libraries”; Wilson and Macevičiūtė, “Users’ Interactions with Digital Libraries.”

<sup>15</sup> Bolger, “Looking Back to Move Forward,” 31–32.

<sup>16</sup> Bronstad, “References to Archival Materials in Scholarly History Monographs.”

<sup>17</sup> Sinn and Soares, “Historians’ Use of Digital Archival Collections,” 1807.

<sup>18</sup> Vilar and Šauperl, “Archives, Quo Vadis et Cum Quibus?” 553–54.

<sup>19</sup> Nicholas, “The Virtual Scholar,” 27.

<sup>20</sup> Anderson, “Are You Being Served?” 108.

<sup>21</sup> Duff, Craig, and Cherry, “Finding and Using Archival Resources,” 72; Martin and Quan-Haase, “The Role of Agency in Historians’ Experiences of Serendipity,” 1022.

and technology. Even so, Jean-Claude Robert sees the relationship between historians and archivists as essential to historical scholarship, especially as today's digital records and information becomes tomorrow's archives.<sup>22</sup>

The focus on systems frequently overlooks what is useful to historians. From an archival perspective, Hea Lim Rhee discovered that archival institutions often fail to implement policies and procedures reflective of what they discover in user studies, especially regarding collection appraisal.<sup>23</sup> Charles Jeurgens looked at the costly dual infrastructure that has developed in recent decades as the expectation for archives to maintain hybrid systems of access (physical and digital) has grown among historians.<sup>24</sup> Susanne Belovari indicates that this reluctance among historians to move more firmly in the direction of digital delivery is largely rooted in concerns that they would not be able to replicate their historical research process in this environment, and that locating essential and authoritative records would be even more difficult.<sup>25</sup> Several other archival user studies note that the elusive sensory experience and physical context within digital environments leaves the biggest impression on researchers, outweighing other system design features or flaws.<sup>26</sup> Newspapers appear to be an exception, likely because their straightforward and consistent structure can be more easily rendered as a digital surrogate than other types of analog records.<sup>27</sup>

In the last two decades, a few studies in the archival studies and library and information science fields specifically consider historians' use of web-based digital archival collections by examining their scholarly output.<sup>28</sup> Through interviews with historians, Donghee Sinn found that the web was largely considered a way to communicate with other scholars and locate traditional archives, though historians did use relevant primary sources they had found on the web.<sup>29</sup> Valerie Harris and Peter Hepburn tracked the use of digital photographs in history publications from 2000 to 2009 and found that the frequency of use did not increase with the growing availability of digital archival collections on the web.<sup>30</sup> In examining the use of photography from digital archival collections, Alexandra Chassanoff focuses on how historians make sense of the visual images they encounter and use as evidence in their scholarship.<sup>31</sup> An earlier study of historians by Chassanoff describes the incorporation of digital archival collections as part of a research and publication continuum that encompasses interaction with hybrid resources (physical and digital), mediation from archives and other information professionals, and building personal scholarly archives as they accumulate source materials related to their research.<sup>32</sup>

---

<sup>22</sup> Robert, "History, Archives and the Internet."

<sup>23</sup> Rhee, "Utilizing User Studies in Archival Appraisal Practice."

<sup>24</sup> Jeurgens, "The Scent of the Digital Archive Dilemmas with Archive Digitisation," 46.

<sup>25</sup> Belovari, "Historians and Web Archives," 62.

<sup>26</sup> Boujdad M'Kadem and Nieuwenhuysen, "Digital Access to Cultural Heritage Material"; Burns, "Digital Facsimiles and the Modern Viewer"; Dorner, Liew, and Yeo, "A Textured Sculpture"; Varnalis-Weigle, "A Comparative Study of User Experience."

<sup>27</sup> Gooding, "Exploring the Information Behaviour of Users of Welsh Newspapers Online," 242; Krtalić and Marčetić, "Using Newspaper Collections in Information Institutions for Research Purposes."

<sup>28</sup> Sinn, "Impact of Digital Archival Collections on Historical Research," 1522–25.

<sup>29</sup> Sinn, "Room for Archives?"

<sup>30</sup> Harris and Hepburn, "Trends in Image Use by Historians," 283.

<sup>31</sup> Chassanoff, "Historians' Experiences Using Digitized Archival Photographs as Evidence," 148.

<sup>32</sup> Chassanoff, "Historians and the Use of Primary Source Materials in the Digital Age," 471–72.

The findings of the present study confirm that academic historians use and cite digital archival collections, though it remains difficult to identify these sources in their publications. As alluded to in prior studies, our research shows the paradoxical nature of these materials: they are valuable because they are accessible but problematic because they are often incomplete. Thus, as our study is part of a growing body of research about the use and perceptions of digital archival collections, it shows that additional research is needed to better understand and assess how users may take full advantage of digital archival content.

## **Methodology**

This pilot study consisted of three components: a citation analysis, an online survey, and semi-structured interviews with academic historians. Information gleaned from each phase was incorporated into the subsequent phases. The following sections outline the methodology for each phase in the order in which they were executed.

### **Citation analysis.**

To begin the project, we conducted a citation analysis of publications of faculty from a history department at an R1 institution located in the Midwest. We believed academic historians from such institutions would be likely to incorporate digital archival materials into their research process and have well-formed opinions about their value. We also believed that these historians would have significant experience in physical archives and be willing to share their perspectives on differences between digital and physical archival collections. The decision to use this corpus of material was based on convenience and the notion that the collective publication record of an academic department at a research-intensive university would provide sufficient data to initiate the inquiry. We reasoned that our campus library would likely contain (or be able to easily acquire) faculty publications within its holdings, especially more obscure monographs or articles in specialized journals that may only be available via print or subscription. In addition, our common institutional affiliation and co-location on campus would make any subsequent follow-up with individual faculty members much easier. That said, we also felt that our position in a separate academic unit provided enough distance to fairly evaluate them as research subjects.

The items selected for review and analysis were culled from the faculty publication listings on the departmental website. In particular, we referred to the individual subpages for each faculty member, which contain a “selected publications” section and copies of each faculty member’s curriculum vitae. The analysis focused on work from this cohort and not faculty listed as emeriti or other departmental associates such as teaching academic staff or graduate students. To keep the total number of items evaluated manageable and current, the items selected had to be published within the 2013–18 timeframe. We felt that the recent purview would increase the likelihood of digital archival collections citations appearing in this cohort’s collective publication record. However, we made no assumptions about the frequency or nature of such citations.

We scanned the selected publications sections and CV of each history department faculty member and compiled a list of all items within the predetermined date range. We further narrowed this list to items published in English that were clearly works of historical research (as opposed to, for example, works of historiography, history teaching methods, or historian professional issues) and

likely to include a bibliography, works cited section, or some other form of source attribution. Works were included regardless of format (print, electronic, media) or genre (journal article, monograph, book chapter, web publication, etc.), and there was no requirement that the work be peer-reviewed or intended for a scholarly (versus popular) audience.

We recorded this information on a spreadsheet, with each faculty member's publications grouped on a separate tab. The data fields for each selected publication tracked its location and method of acquisition (e.g., library stacks call number, open web link, interlibrary loan, etc.), whether the item's citations had been checked, any issues or notes related to the item, and an accounting of any digital archival collections identified in the resource citations or elsewhere in the publication. For this component of the study, digital archival collections were defined as web-based repositories with an identifiable URL that contain digital surrogates of original materials and are likely affiliated with a collecting institution (i.e., a university library, a specialized research center, etc.). We believed that these would most often take the form of limited curated exhibits, but the main qualifying characteristics were online availability and archival contents.

The entire text of each publication in a physical format was visually scanned for references to digital archival collections in the body, index, footnotes, endnotes, and bibliography or works cited sections. Particular attention was given to URLs or any other text apparently referring to the web and/or archival collections. Electronic publications were also visually scanned and searched using the Ctrl+F function to locate specific text strings ("http" and "www") and keywords ("archives," "digital," and "digital archives") in the larger text and metadata. If URLs were present, they were clicked on (or recorded and accessed later) to determine if that resource met the criteria set forth for a digital archival collection.

### **Online survey.**

The second component of this study involved a brief online survey designed in and distributed by Qualtrics XM. Once again, we targeted the same faculty from the Midwestern R1 history department to attempt to correlate the findings from the citation analysis with self-reported information about the use of digital archival collections. The survey consisted of thirteen questions (see appendix A) that inquired about each respondent's use of digital archival collections and objects for research purposes. The survey contained multiple choice and multiple selection questions, with options to provide additional answers to designated questions. The final question asked the participants if they would agree to a follow-up interview to further discuss their experiences with digital archival collections. On March 3, 2020, we emailed the survey to twenty-three tenured or tenure-track faculty members (assistant, associate, or full professors) as listed on the website of the department. We sent a follow-up message approximately two weeks later to those who had yet to complete the survey. Eleven of the twenty-three faculty members completed the survey for a 46 percent completion rate. Of those eleven, nine expressed interest in providing more information through a follow-up interview.

### **Semi-structured interviews.**

The final component of the pilot project involved semi-structured interviews with participants who completed the survey. We conducted the interviews to gain deeper insight into the use of digital

archives collections among this group of academic historians. We wanted to understand their perceptions on the benefits and limitations of these collections; their thoughts and observations on metadata, trustworthiness, and archival context; and their preferences and approaches in utilizing digital archives collections in their research. Three months after distributing the survey, we contacted the nine participants who expressed interest in the interview. In June 2020, five faculty members agreed to meet with us to offer their perspectives. Each interview occurred online using Microsoft Teams, which allowed us to record each session with the participant's verbal consent.

To facilitate discussion and allow for prior reflection, each participant was sent the interview questions ahead of their scheduled meeting. The sessions ranged in length from about thirty to sixty minutes, averaging approximately forty-five minutes. Text transcriptions were generated from the electronic audio files produced during the recorded sessions using a proprietary transcribing service (Transcribe Wreally). In the following findings and discussion section, interviewees are labeled A–E to maintain anonymity, and references to specific topics and other potential identifying details are removed from direct quotations.

## **Findings and Discussion**

### **Citation analysis and survey.**

Of the twenty-three faculty members listed on the history department website, two did not have any publications listed on their individual subpage or CV that fell within this study's scope. From the remaining twenty-one faculty members, we identified seventy-eight publications for review and analysis. Of those, only two were not available for review in any format. Analysis of the remaining seventy-six resulted in the following main findings:

- Digital archival collections were cited in nine of the seventy-six publications (11.8%)
- A total of fifteen individual digital archival collection citations appear, representing thirteen unique collections
- All the digital archival collection citations were distributed among five faculty members
- A single faculty member accounted for nearly half (7 of 15) of the individual citations

In two instances, the publications did not list citations by author and no other reference information could be located. In another instance, digital archival collections were listed in a general bibliography but were not explicitly cited within the publication. In yet another instance, the link to what appeared to be a digital archival collection went to a non-English language website with apparent security issues that triggered a warning from the internet service provider. These instances were not counted affirmatively because their status as digital archival collections could not be confirmed through our predefined criteria.

The prevalence of archives in this cohort's publication record was unsurprising, given the reliance on primary source material for producing original historical scholarship. However, the small and concentrated presence of digital archival collections within this mix raised several questions about faculty preferences for accessing archives, their level of awareness of or comfort with using non-physical archival materials, and the digital resources available in their research areas. Because of the limitations of the data collected, it is impossible to determine the potential and actual use of

digital archival collections among this group. For example, one might consult digital archives without officially citing or directly referencing them in their work. Given the diverse and specialized nature of this cohort's research areas, it is also possible that correspondingly focused and relevant digital archival collections simply do not exist. Furthermore, applying this analysis to a different, comparatively sized and sourced faculty might produce very different results. However, the insight gained from this phase of the study established a limited quantitative baseline to compare with faculty survey responses regarding digital archival collection usage.

We distributed the survey to all qualified faculty members listed on the departmental website (n = 23). To avoid possible breaches in anonymity due to this dataset's small sample size, we did not collect demographic information other than the respondent's title. All respondents to the survey were tenured professors (7 associate and 4 full) and reported at least four to six total publications, with the majority (73%) reporting ten or more. All but one respondent reported citing digital archival collections in at least one publication, but the respondents with more total publications reported higher use of physical archives than digital archives. Conversely, respondents with fewer publications reported higher use of digital archival collections, though still at a lower frequency than physical archival collections. Every respondent reported using both physical and digital archival collections and citing them in a range of publication types including articles, monographs, book chapters, conference proceedings, and encyclopedias. The citation rate of physical archives in these publications exceeded that of digital archives by 36 percent, which is similar to the overall rate of physical archival citations versus digital archival citations reported by the respondents.

Interestingly, the overall confidence level of the survey respondents in locating both digital and physical archival collections was essentially the same. This likely reflects the high level of research experience in the sample group (all tenured faculty) and a more general sense of professional confidence, enabling them to find solutions for their research needs. However, usage levels that one might expect from such high confidence do not appear to be reflected in the citation analysis. Of the respondents who completed the survey, only three had digital archival collection citations identified in the review of their publications. Of the survey respondents who indicated the highest level of confidence in locating digital archival collections, only one had a citation identified in the previous analysis. While it is clear that the sample group is actively using digital archival collections, this use is not immediately evident through publication citations or other quantifiable observations. This sample group also clearly retains a preference for physical archival collections, as reflected by both the citation analysis and the survey findings.

### **Historian interviews.**

The academic historians interviewed for this study offered further insights into the study's citation analysis and survey responses through their substantial and wide-ranging perspectives on the availability, utility, and value of digital archival collections for their research. Responses fall into several overarching themes that further illustrate this cohort's use of digital archival collections: Evolving Approaches, Virtual Dismemberment, Context and Content, and Trustworthiness.

*Evolving approaches.* During the interviews, several participants stated that their research areas in which digital archival collections are a relatively recent phenomenon within their academic careers. For example, Interviewee A, who completed their dissertation before archivists had widely

digitized newspapers, needed to “go through an index, big catalog index” to locate a newspaper and then “ask for the reel . . . so it was a big rigmarole. And that was probably the first thing that drew me into the online considerations . . . after I figured out that I could do that online.”

Similarly, Interviewee B observed that their career “predate[s] digital archives. So that means that I’ve seen them grow from the beginning [and based on] my familiarity with my own field and subfields, I’m fairly cognizant of where there might be a good chance of finding digitized materials and where it’s unlikely to be a productive search. You know, it helps sometimes being an old geezer and knowing the field from its inception.”

When we asked Interviewee B if distrust of material in digital archival collections had led to a lack of use, they said, “No, I don’t think I ever thought that the digital images weren’t worth looking at, it’s just that there are more of them now. So the body of information is greater now than it was five years ago, or ten years ago, or fifteen years ago. That means that those images are becoming more and more collectively useful because there are that many more of them.”

Interviewee E also observed the emergence of digital archival collections in their research area: “Well, you know in the 90s and early 2000s there was pretty much nothing pertaining to my research that would have been there. . . . I have gone from being pretty safe in assuming that there was nothing in any digital collection that was going to be useful, to now there is, like these collections of documents related to [my research].” The increase in materials has prompted adjustments to their research process:

It almost feels like a problem because now I have to remind myself to check and see if there are digital collections that are useful to me instead of just planning a trip to [a foreign city] for a month. . . . It’s like almost more problematic that it might be available more easily because then I have to search for it and find out if it actually is available. But it’s a good problem to have because every once in a while, something actually is available and it’s like, oh my God, I almost spent \$3,000 and three weeks to go find this somewhere else.

Not only is there the financial benefit to accessing digital archival collections from the comfort of one’s home or office, but these materials also impact the research process—a point made by Interviewee D, who said that using digital archival collections

allows you to plan and think through the whole of your project very easily. If you can get a sense of what the . . . digitized landscape is, and then it allows you—for the things that you want to view in person—allows you to plan more effectively for that. It also means that you don’t have to digitize materials yourself, right? You don’t have to go to the archive and take a bunch of pictures if you know that they’re available. You still have to find ways to make notes of what you need, but . . . you can count on the library to have made a good copy, probably one that’s better than the one you would make and with good metadata attached to it.

The interviewees were aware that digital archival collections have limitations, including errors resulting from the scanning process, such as incomplete scans or blemishes that obscure content.

As explained by Interviewee B, while these materials might be the only way to view certain primary sources, especially during the COVID-19 pandemic, encountering sources online is often

not the most perfect way to gain access to those materials if there's something really critical about them. . . . I might well have to go see them and photograph them myself, because the archival digitization may be limited in some way. It may show the front of a document and not the back or it may not be very clear or the archivist's thumb might be right in the middle of a photograph and right over the bit that I want to look at, but it's obviously a very good way to start.

However, most of the interviewees have not encountered significant problems with the appearance of digital archival objects. Interviewee E indicated that in their experience the quality of the digital materials they have encountered is “usually very good. I mean I've been to archives where I've used a digital camera to take my own pictures of documents and usually the ones in digital collections have been done better than my own amateur digital photography.”

*Virtual dismemberment.* While the interviewees did not express the image quality of digital archival collections as a significant concern, a few acknowledged limitations to complete access. As Interviewee D indicated, digital archival collections may often be “quietly incomplete. . . . You don't know what's there and you don't know what's not there.” All the interviewees seemed to understand that archives typically do not digitize every document or photograph within a collection, an occurrence that Brian Ogilvie calls “virtual dismemberment.”<sup>33</sup> This can be problematic for researchers, as explained by Interviewee A:

I'm oftentimes most frustrated by an archive that has part of a collection online and . . . that only helps me so much because . . . one of the ways that historians argue is . . . they will make an argument saying, “based on the evidence in this archive . . .,” but if you're only seeing what the archivist thinks is the sort of greatest hits then you don't know what else is in there and you'll always have this little buzz in the back of your head that you've missed something and someone's going to catch you. So, I would say actually it's the same reason it's good is also the same reason it's bad. I mean it's not that access is the issue but sometimes that access is not as complete as it appears to be.

Similarly, Interviewee D noted that the gaps may not be readily apparent, and “unless you can sort of see the whole of the collection carefully, study the finding aid, have a conversation with an archivist, just as you're thinking about it, you don't necessarily know what you're missing.” Furthermore,

When you look at a digital collection, you don't know intuitively and you don't necessarily know unless you think to ask what has the archivist omitted from the digitization. Now, that's also true that you don't know what the archivist has omitted from a folder either. So, you're still dependent on the archivist's discretion, but in the context of a physical collection, when you're onsite and you're working with a finding aid sitting next to, you can also get a strong sense of the kinds of decisions

---

<sup>33</sup> Ogilvie, “Scientific Archives in the Age of Digitization,” 83.

that the archivist made and whether something is missing. . . . So knowing what's in a collection and what's not in a collection . . . and if you're just remotely working with a digital archive and you kind of naively presume that it's all there, you are missing important contextual knowledge.

Interviewee A also mentioned the importance of finding aids and how they help researchers not only understand what content is in the physical collection but also what may be missing from the digital collection. The incomplete nature of digital archival collections is what brings some researchers to the archives, and finding aids can indicate “pretty quickly . . . if they're going to be worth traveling to go there. I mean, so they do kind of help call out unproductive trips, but . . . I guess it still doesn't cut the trip completely out if you're only got a tenth of it online, so I've still got to go look at the rest of it.”

*Context and content.* Unclear or missing contextual information associated with digital archival collections may be another factor that causes researchers to want to view the original physical materials. Interviewee D summarized the issue:

As a researcher you have to be conscious of the ways in which the presentation of the primary source matters to what you are looking at and the ways in which it might have been either maliciously or politically or inadvertently changed or transformed in the form that comes for you. So I think that just as a previous generation of scholars knew to look out for what the students always called bias in the primary sources, we as researchers who use digital collections need to be aware of the ways that digital materials are inflected away from their original form, the facsimile is not the same as the original.

Arguably, the metadata associated with each digital archival object, such as its date, creator, geographic information, and so on, should provide contextual information. However, Interviewee C expressed some caution about relying on it too much: “You always want to double check that information. . . . It provides a sort of starting point to explore those relationships, but I'm always going to, like, try and find further evidence for those things because I don't trust that they got it right to the extent that I'm going to publish something based on that, but I use it as a sort of exploratory tool.”

As indicated by the citation analysis and survey, the interviewees utilize digital archival collections but still often depend on the physical archives to access physical documents. In addition to the possibility of gaps and incompleteness, Interviewee D pointed out that “there are also things you can get from the physical object that you can't get digitally,” such as missing information on the original object or associated documents that contribute to the context of the digitized object.

Not all the interviewees require access to the original physical versions of the archival materials they need for their research. Access to the original may depend on each historian's research area, personal preferences, and availability of sources. For example, Interviewee A said that because they primarily use textual documents, they have not encountered any significant problems with the digitized versions, and interacting with them online is sufficient “assuming they are mostly complete.” In some instances, the digitized versions facilitate Interviewee A's research because they

allow keyword searching and other opportunities to engage the content. Likewise, Interviewee C stated that digital archival materials have aided research in ways not previously possible earlier in their career: “When I was in graduate school or early in my research, I would be more inclined to get physical copies of things. I would say, ‘Oh, if I’m going to spend, you know three hundred hours reading this eight-hundred-page text, I want a paper copy.’ Now I’m just like I’ll just get the PDF. . . . The physical copies . . . are not really interesting to me anymore. If it’s a good scan, then that’s just as well.”

*Trustworthiness.* Throughout the interviews we were curious to find out if these historians worried about the trustworthiness of the digital objects and collections that they use for their research. This line of inquiry stemmed from a survey question regarding whether the participant typically wants to see the object in person before they are willing to cite it in a publication. Of the ten respondents who answered the question, one indicated “Yes,” five selected “No,” and the remaining four chose the “Depends on the Object” option. For the participant who selected “Yes,” they were then directed to a follow-up question that asked why they want to see the original version. The respondent selected all three possible answers: to verify the authenticity of the object, verify its quality, and better understand its context.

Based on the survey responses and interviews, the issue of digital archival collections’ authenticity and trustworthiness is not a concern to this group of historians. Each interviewee acknowledged that once they identify that the hosting site of the digital archival collection is a trustworthy institution, such as a university library or archives, they feel no need to further investigate the reliability of the virtual object. As Interviewee D noted, “I think that when an item has been digitized by a reputable institution like ours, I’m unworried about the quality and the metadata associated with the facsimile. I would not think that it was manipulated, and I also know that I can get to the physical object, if I need to.”

Interviewee E made a similar point but distinguished between locating a digital archival object from a random internet search and using an official institutional archive: “No, I mean if I did a Google search and an image of a document came up that somebody just posted somewhere, I would question that, but if it’s coming from an actual archival collection that has some kind of academic integrity, I wouldn’t worry about it.” For Interviewee E, digital objects and physical objects carry the same weight if they come from the same institution: “I wouldn’t worry about [the digital object] any more than I would wonder if an actual paper document that I found in a box that was labeled something was really what was labeled on the box or you know, really written by the person who signed it. I would assume that it’s the object that’s in the box in that archive.”

The interviewees use and rely on digital archival collections to varying degrees because these virtual collections do not equally represent all research areas—some interviewees mentioned that they are only now starting to see an increase in the number of relevant materials online. Each interviewee understood that complete digitization and unfettered access online to an archival institution’s holdings is exceedingly rare, and that most of what they encounter virtually amounts to carefully curated selections from larger aggregations of physical archival collections. This process of virtual dismemberment is a significant concern because it potentially distorts how researchers understand the digitized objects. This may cause researchers to visit archives in person to review the physical materials to verify gaps and confirm their interpretations of the materials. Yet, there

appears to be a link between institutional reputation and trustworthiness that factors into historians' digital archival collection use, which may limit or expand the frequency of access and use online.

### **Study Limitations and Future Research**

There are limitations to this exploratory pilot study. The citation analysis found far fewer citations to digital archival collections than what was self-reported in the survey, potentially indicating that we did not fully comprehend this group's use of these resources. The faculty web pages and CVs may not have provided a complete picture of each researcher's publication output, and we possibly missed citations to digital archival collections from the faculty's collective publication record. The quantitative difference between our citation analysis and the faculty's self-reported citation numbers may be the result of other factors: a flaw in the scope of analysis (too small of a sample, too short of publication period, too limited source information about publications, etc.), a disconnect between what the respondents believe their use is and what it actually is, and/or a divergence between the survey's respondents and its creators in their respective understanding of what defines and constitutes a digital archival collection.

The most significant limitation in this study is the small size of its dataset—eleven survey participants and five interviewees. Therefore, our findings cannot be generalized to all academic or non-academic professional historians. Moreover, no junior faculty members completed our survey, which is significant due to the potential evidence that the use and understanding of digital archival collections may be related to generational factors and career stage differences. The small sample size also prevented us from conducting any cross-analysis between types of participants (e.g., assistant versus associate professor) and other demographic characteristics. In addition, our study cannot speak to the use of the materials by any other type of user, such as genealogists, hobbyists, or teachers. Different types of users would likely have substantially different perspectives on the value and utility of digital archival collections, all of which deserve consideration.

Despite its limited scope, this study provides valuable insights on the use of digital archival collections by academic historians that warrant further investigation. First, the use and perception of these types of archival materials may be affected by the user's age, length of time as a professional researcher, and research area. Further analysis of these demographic and vocational characteristics may help archivists determine new approaches to designing, managing, and developing digital archival collections around different user needs, experiences, and expectations.

Second, the interviews revealed how the evolving role of digital archival collection affects the ways in which these historians conduct research. Several of the interviewees expressed the need to adjust their research workflows, from how they find relevant primary sources online to how they access them, take notes about them, and find them later (either as a downloaded file or at their original web location). For example, Interviewee C explained that they rely on one specific digital archival collection for the majority of their research “every day and I'm bouncing back and forth from text to text comparing what they have to say about different topics. So having that all in digital form on my computer . . . it's a game changer. I mean, that's how I do the work. If I only had hard copies, I would actually want to scan those things and then I have them just readily available on my computer screen.”

We intend to use the findings of this pilot project to revise the survey and distribute it to academic historians at R1 institutions. By gathering additional data about the perceptions this particular audience have of digital archival collections, we hope to confirm or refute the results presented in this article and previous studies. Additional research about how users interact with digital archival collections may help archivists continue to explore ways to enhance these materials with links to finding aids, information about the original objects, citation information, and contact information for their institution within the descriptive information.

## Conclusion

Digital archival collections and the objects they contain clearly have value to professional historians and their research. These virtual materials help reduce costs associated with travel and potentially minimize the need to visit physical archives in person. They often serve as a starting point for research projects as historians attempt to gain a better understanding of the archival landscape on specific topics. However, it is also apparent that digital archival collections frequently cannot stand alone as research resources that support historical scholarship at a high level. Perhaps this is not a problem for casual online users who increasingly make up the audience for digital historical content, but for existing or aspiring academic historians—the traditional base of archives users—this is potentially a huge issue. Shrinking higher education budgets, increased non-research workloads, diminished job security, and a precarious public health situation all make conducting archival research in traditional modes more difficult. Online delivery has long represented the future of archival operations, but there are ongoing debates on how to structure services that widen appeal while keeping such specific user groups in mind. Studying academic historians' use of and perspectives on digital archival collections helps provide a useful assessment on the efficacy of archival efforts to meet the evolving needs of its patrons.

The citation analysis and survey reveal that citations to digital archival collections still lag significantly behind citations to physical archival collections. This does not appear to be due to a lack of trust in the materials themselves but rather because of issues around quantity and accessibility. For instance, one interviewee pointed to the abundance in material that is potentially useful for their research but acknowledges the probability that they will likely never have the opportunity to interact with it in the course of their career because of its volume and probable low priority for digitization. Similarly, there always will be relevant documentation that a researcher never comes across because an archives institution does not know to collect it, or because the content is buried and hidden within an existing collection. Thus, while digital archival collections provide access to a wide variety of materials, they represent the tip of the iceberg—and historians are fully aware of that. Regardless, as Interviewee C noted, “you do the best that you can, knowing that there’s other texts that you just don’t even know that you don’t know about.”

## Bibliography

Anderson, Ian G. “Are You Being Served? Historians and the Search for Primary Sources.” *Archivaria* 58 (2014): 81–129.

“Archive of Metrics Dashboard.” National Archives and Records Administration. May 5, 2021. <https://www.archives.gov/metrics/reports>.

Belovari, Susanne. "Historians and Web Archives." *Archivaria* 83 (2017): 59–79.

Bolger, Teresa. "Looking Back to Move Forward: Measuring the Impact of Existing Digital Resources Relevant to Irish Archaeology." *New Review of Information Networking* 20, nos. 1–2 (2015): 16–34.

Boujdad M’Kadem, Abdelhamid, and Paul Nieuwenhuysen. "Digital Access to Cultural Heritage Material: Case of the Moroccan Manuscripts." *Collection Building* 29, no. 4 (2010): 137–41.

Bronstad, Kris. "References to Archival Materials in Scholarly History Monographs." *RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage* 19, no. 1 (2018), <https://rbm.acrl.org/index.php/rbm/article/view/16982/18723>.

Burns, Jasmine Elizabeth. "Digital Facsimiles and the Modern Viewer: Medieval Manuscripts and Archival Practice in the Age of New Media." *Art Documentation: Bulletin of the Art Libraries Society of North America* 33, no. 2 (2014): 148–67.

Chassanoff, Alexandra. "Historians and the Use of Primary Source Materials in the Digital Age." *American Archivist* 76, no. 2 (2013): 458–80.

———. "Historians’ Experiences Using Digitized Archival Photographs as Evidence." *American Archivist* 81, no. 1 (2018): 135–64.

Chowdhury, Gobinda, and Schubert Foo. "Digital Libraries and Information Access: Introduction." In *Digital Libraries and Information Access: Research Perspectives*, edited by Gobinda Chowdhury and Schubert Foo, 1–11. London: Facet, 2012.

Conway, Paul. "Facts and Frameworks: An Approach to Studying the Users of Archives." *American Archivist* 49, no. 2 (1986): 393–407.

Cook, Terry. "Evidence, Memory, Identity, and Community: Four Shifting Archival Paradigms." *Archival Science* 13, nos. 2–3 (2012): 95–120.

Daniels, Morgan, and Elizabeth Yakel. "Seek and You May Find: Successful Search in Online Finding Aid Systems." *American Archivist* 73, no. 2 (2010): 535–68.

Dickson, Maggie. "CONTENTdm Digital Collection Management Software and End-User Efficacy." *Journal of Web Librarianship* 2, nos. 2–3 (2008): 339–79.

Dorner, Daniel G., Chern Li Liew, and Yen Ping Yeo. "A Textured Sculpture." *Online Information Review* 31, no. 2 (2007): 166–84.

Duff, Wendy M., Barbara Craig, and Joan M. Cherry. "Finding and Using Archival Resources: A Cross-Canada Survey of Historians Studying Canadian History." *Archivaria* 58 (2004): 51–80.

Duff, Wendy M., and Catherine A. Johnson. “Accidentally Found on Purpose: Information-Seeking Behavior of Historians in Archives.” *Library Quarterly* 72, no. 4 (2002): 472–96.

Gao, Wenli. “Beyond Journal Impact and Usage Statistics: Using Citation Analysis for Collection Development.” *Serials Librarian* 70, nos. 1–4 (2016): 121–27.

Gooding, Paul. “Exploring the Information Behaviour of Users of Welsh Newspapers Online through Web Log Analysis.” *Journal of Documentation* 72, no. 2 (2016): 232–46.

Harris, Valerie, and Peter Hepburn. “Trends in Image Use by Historians and the Implications for Librarians and Archivists.” *College and Research Libraries* 74, no. 3 (2013): 272–87.

Hildebrandt, Eleanor. “Historian Robert Caro on the Importance of Analog Research in the Digital Age.” *Popular Mechanics*, April 15, 2019, <https://www.popularmechanics.com/culture/a27128999/robert-caro-lbj-typewriter/>.

Jeurgens, Charles. “The Scent of the Digital Archive Dilemmas with Archive Digitisation.” *Bmgn—The Low Countries Historical Review* 128, no. 4 (2013): 30–54.

Kelly, Elizabeth Joan. “Assessing Impact of Medium-Sized Institution Digital Cultural Heritage on Wikimedia Projects.” *Journal of Contemporary Archival Studies* 6, article 25 (2019), <https://elischolar.library.yale.edu/jcas/vol6/iss1/25/>.

———. “Assessment of Digitized Library and Archives Materials: A Literature Review.” *Journal of Web Librarianship* 8, no. 4 (2014): 1–20.

Krtalić, Maja, and Hana Marčetić. “Using Newspaper Collections in Information Institutions for Research Purposes: Experiences of Historians and Linguists.” *Libellarium: Journal for the Research of Writing* 7, no. 2 (2015): 165–77.

Martin, Kim, and Anabel Quan-Haase. “The Role of Agency in Historians’ Experiences of Serendipity in Physical and Digital Information Environments.” *Journal of Documentation* 72, no. 6 (2016): 1008–26.

Nguyen, Son Hoang, and Gobinda Chowdhury. “Digital Library Research (1999–2010): A Knowledge Map of Core Topics and Subtopics.” In *Digital Libraries: For Cultural Heritage, Knowledge Dissemination and Future Creation, 13th International Conference on Asia-Pacific Digital Libraries, ICADL 2011, Beijing, October 24–27*, edited by Chunxiao Xing, Fabio Crestani, and Andreas Rauber, 367–71. New York: Springer, 2011.

Nicholas, David. “The Virtual Scholar: The Hard and Evidential Truth.” In *Digital Library Futures: User Perspective and Institutional Strategies*, edited by Ingeborg Verheul, Anna Maria Tamaro, and Steve Witt, 23–32. Berlin: De Gruyter Saur, 2010.

Ogilvie, Brian. “Scientific Archives in the Age of Digitization.” *Isis* 107, no. 1 (2016): 77–85.

Orbach, Barbara C. "The View from the Researcher's Desk: Historians' Perceptions of Research and Repositories." *American Archivist* 54, no. 2 (1991): 28–43.

Poole, Alex H. "Archival Divides and Foreign Countries? Historians, Archivists, Information-Seeking, and Technology: Retrospect and Prospect." *American Archivist* 78, no. 2 (2015): 375–433.

Rhee, Hea Lim. "Utilizing User Studies in Archival Appraisal Practice: Feasibility, Value, and Benefits." *Archival Science* 17, no. 2 (2017): 151–73.

Robert, Jean-Claude. "History, Archives and the Internet." *Culture and History Digital Journal* 1, no. 1 (2012), <http://cultureandhistory.revistas.csic.es/index.php/cultureandhistory/article/view/5/21>.

Sinn, Donghee. "Impact of Digital Archival Collections on Historical Research." *Journal of the American Society for Information Science and Technology* 63, no. 8 (2012): 1521–37.

———. "Room for Archives? Use of Archival Materials in No Gun Ri Research." *Archival Science* 10, no. 2 (2010): 117–40.

Sinn, Donghee, and Nicholas Soares. "Historians' Use of Digital Archival Collections: The Web, Historical Scholarship, and Archival Research." *Journal of the Association for Information Science and Technology* 65, no. 9 (2014): 1794–1809.

Teruggi, Daniel. "Who Are the Users of Digital Libraries, What Do They Expect and Want? The Europeana Experience." In *Digital Library Futures: User Perspectives and Institutional Strategies*, edited by Ingeborg Verheul, Anna Maria Tammaro, and Steve Witt, 33–40. Berlin: De Gruyter Saur, 2010.

Tibbo, Helen. "Primarily History in America: How U.S. Historians Search for Primary Materials at the Dawn of the Digital Age." *American Archivist* 66, no. 1 (2003): 9–50.

Toms, Elaine G. "Models That Inform Digital Library Design." In *User Studies for Digital Library Development*, edited by Milena Dobрева, Andy O'Dwyer, and Pierluigi Feliciati, 21–32. London: Facet, 2012.

Varnalis-Weigle, Anastasia S. "A Comparative Study of User Experience between Physical Objects and Their Digital Surrogates." *Journal of Contemporary Archival Studies* 3, article 3 (2016), <https://elischolar.library.yale.edu/jcas/vol3/iss1/3/>.

Vilar, Polona, and Alenka Šauperl. "Archives, Quo Vadis et Cum Quibus? Archivists' Self-Perceptions and Perceptions of Users of Contemporary Archives." *International Journal of Information Management* 35, no. 5 (2015): 551–60.

Washburn, Bruce, Ellen Eckert, and Merrilee Proffitt. *Social Media and Archives: A Survey of Archive Users*. Dublin, Ohio: OCLC Research, 2013. <https://www.oclc.org/content/dam/research/publications/library/2013/2013-06.pdf>.

Waters, Donald J. "What Are Digital Libraries?" *CLIR Issues* 1, no. 4 (1998), <https://www.clir.org/1998/07/clir-issues-number-4/>.

Weller, Toni. *History in the Digital Age*. New York: Routledge, 2013.

Widener, Michael. "The Status of Users in Archival Enterprise." *Provenance, Journal of the Society of Georgia Archivists* 9, nos. 1–2 (1991): 1–23.

Wilson, Tom D., and Elena Macevičiūtė. "Users' Interactions with Digital Libraries." In *Digital Libraries and Information Access: Research Perspectives*, edited by Gobinda Chowdhury and Schubert Foo, 113–27. London: Facet, 2012.

## Appendix A

Have you ever used a digital archival collection for research purposes? For this question, "use" means that you have referred to a digital archival collection or a digital archival object within such a collection and it assisted with your research but you did not cite the collection or object in a publication.

- Yes
- No
- Not Sure

Have you ever cited a digital archival collection or digital archival object in a publication, such as an article, monograph, chapter, etc.?

- Yes
- No
- Not Sure

Please indicate the reason(s) you have not cited a digital archival collection or digital archival object in any of your publications. Please select all that apply.

- Cannot locate any relevant digital archival collections in area(s) of research
- Poor quality of digital archival collections
- Digital collection(s) lack sufficient contextual information to be used as reliable sources for research
- Prefer to cite the original (i.e., physical) materials
- Other (please explain): \_\_\_\_\_

Please indicate where you have cited a digital archival collection or digital archival object. Select all that apply.

- Article
- Monograph
- Chapter (as part of an edited volume)
- White Paper
- Conference Proceeding
- Other (please specify): \_\_\_\_\_

In how many publications (i.e., individual articles, books, book chapters, etc.) have you cited digital archival collections or objects?

- 1–2
- 3–4
- 5–6
- 7–9
- 10 or more

Once you see a digital archival object online, do you typically want to see it in person before you are willing to cite it in your research?

- Yes
- No
- Depends on the object

Why do you typically need to see the original archival object before you are willing to cite it in your research? Please select all that apply.

- Verify the authenticity of the object
- Verify the quality of the object
- Better understand the context of the object
- Other (please specify): \_\_\_\_\_

Have you ever visited an archives in person to conduct research?

- Yes
- No
- Not Sure

Have you ever cited one or more physical archival materials in a publication?

- Yes
- No
- Not Sure

In how many publications (i.e., individual articles, books, book chapters, etc.) have you cited physical archival materials?

- 1–2
- 3–4
- 5–6
- 7–9
- 10 or more

Please indicate where you have cited physical archival materials. Select all that apply.

- Article
- Monograph
- Chapter (as part of an edited volume)
- White Paper
- Conference Proceeding
- Other (please specify): \_\_\_\_\_

What is your current position title?

- Assistant Professor
- Associate Professor
- Full Professor
- Emeritus Professor
- Adjunct
- Other (please specify): \_\_\_\_\_

Approximately how many publications do you have?

- 1–3
- 4–6
- 7–9
- 10 or more

Describe your level of confidence with locating . . .

	Extremely comfortable	Somewhat comfortable	Neither comfortable nor uncomfortable	Somewhat uncomfortable	Extremely uncomfortable
Digital archival resources					
Physical archival resources					

Would you be willing to further discuss your experiences with digital archival collections with the research team?

- Yes
- No

Thank you for your willingness to further discuss your experiences with digital collections with the research team. Please include your name and email address so we may schedule an interview.