

Developing Humanities Collections in the Digital Age: Exploring Humanities Faculty Engagement with Electronic and Print Resources

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This article is based on quantitative and qualitative research examining humanities scholars' understandings of the advantages and disadvantages of print versus electronic information resources. It explores how humanities' faculty members at Florida State University (FSU) use print and electronic resources, as well as how they perceive these different formats. It was carried out with the goal of assisting the authors and other librarians in choosing between electronic and print formats when performing collection development responsibilities.



This article aims to aid humanities selectors in deciding whether to order print or electronic versions of particular information resources. The authors are humanities librarians at Florida State University (FSU),¹ a Research I University with historical and contemporary strengths in the humanities.² FSU Libraries has placed considerable emphasis on building collections in the humanities, especially in recent years. While many areas of the libraries' collections are moving toward predominantly digital formats, the humanities collections have shifted far less and remain heavily invested in print. We carried out this study in response to a number of factors that highlighted the

need to advocate for *electronic, as well as, or even instead of, print* acquisitions. Factors contributing to our interest in assessing the merits, advantages, and disadvantages of electronic versus print humanities resources included a finite, limited materials budget and severe spatial constraints. Due to limited resources, our collection development policies call for no duplication. Thus, when materials are available in *both* print and electronic formats, we must make difficult decisions to acquire one *or* the other. The libraries at FSU are at near capacity as are our remote storage facilities. Thus, from a library administrators' point of view, electronic collections that do not take up physical shelf space are highly desirable.

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During the 2009–2010 academic year, the first author had two experiences with FSU faculty that brought such factors out of the realm of theory, demonstrating the challenges of growing print humanities collections in a climate of spatial scarcity and driving home the need for clear guidelines on when to use limited funds to purchase print versus electronic materials for humanities researchers. The first was the varied reactions of faculty to weeding print materials duplicated in JSTOR, with the humanities departments demonstrating a far stronger attachment to print than the sciences. The second was the advocacy for increased funds for electronic resources from a group of humanities faculty. In their advocacy, these faculty described the library's physical, print, *and* electronic resources as the equivalent of a scientist's lab for humanities researchers, a concept we kept in mind throughout the study.

Through correspondence with humanities faculty regarding materials selection, and through discussions related to the JSTOR project and the need for dedicated, recurring funds for humanities electronic resources, we encountered strong and varied opinions on the need to acquire print and/or electronic formats. With hopes of carrying out a more systematic, thorough, and objective assessment of FSU humanities faculty members' views on this issue, in the fall of 2010 we designed an electronic survey and e-mailed it to all full-time faculty in the university's humanities departments and programs.³ This allowed us to gather quantitative data from a range of voices beyond those we spoke with regularly.

The survey indicated the need to examine humanities faculty *use*, in addition to their *perceptions* of particular print versus electronic resources with the goal of better preparing ourselves and other librarians to choose between electronic and print formats. The survey demonstrated that faculty opinions about whether the libraries should acquire print versus electronic materials differed depending on how

the faculty used the print or electronic formats to interact with the research material. To learn more about this, in the spring of 2011, we began a qualitative component of the study, conducting a series of in-person interviews that allowed us to gain further insight into the issues raised in the survey.

Over the course of this study, we found many of our initial assumptions about the cost of purchasing, humanities researchers' attitudes regarding, and the impact of using electronic or print formats for research challenged. We saw the cost difference in acquiring print versus electronic publications for our library shift considerably, partly due to new opportunities for consortial purchasing. The conventional wisdom that humanists resist technology was clearly challenged. At even greater rates than we expected, we found the respondents to be engaged with digital technology and to be more concerned with accessibility and interactivity than with a personal attachment to print. In fact, we found that faculty across humanities disciplines are very interested in electronic resources and the new capabilities for research that they offer, from access to rare primary materials to keyword searching and embedded media.

Nevertheless, we found that there are still serious problems facing any large-scale adoption of electronic resources over print. These include concerns over licensing agreements, long-term preservation, interactivity features such as note taking and copying, and navigability and general ease of use. Many faculty will not invest in learning something (an e-book platform, for instance) with a high learning curve; it must be intuitive. Finally, we were challenged to reconsider the impact of format. It became clear that we are in a period of transition not only in academic publishing practices but also in research methodologies, as different formats facilitate different behaviors for reading, analyzing, and discovering information. Although we have finished gathering the data for this study, drawing definitive

conclusions has been challenging as we have witnessed rapid change in availability and functionality of electronic publications during the period of the study.

Literature Review

Studies of the perceptions and usage of e-resources in a university setting have been steadily on the rise concurrent with the growing popularity of electronic resources. However, there has been comparatively little written about the preferences for and usage of electronic resources by humanities faculty specifically. The current literature about academic e-resource use generally takes a wider purview of both faculty and students⁴ or faculty from a number of different academic areas.⁵

Levine-Clark's study on humanities faculty use of e-books notes that although his surveyed humanists had a higher awareness of e-books, they used them with much less frequency than their academic peers in other disciplines.⁶ This may be owing to the unique relationship between the humanities researcher and text. Rimmer et al. note that humanities scholars have a more physical interaction with text (and often artifacts as well) and, as such, librarians should not expect to completely replace print resources with a digital surrogate.⁷ Ithaka's 2009 edition of their ongoing survey of faculty found that the humanities respondents were consistently more wary of replacing or cancelling print journals in favor of electronic versions than their peers in the social sciences and the sciences. That said, humanities scholars' levels of comfort with digital resources generally increased each year they were surveyed. Ithaka notes that this change "opens new opportunities for libraries, new business models for publishers, and new challenges for preservation."⁸

In their survey of 62 humanities faculty at the University of the Punjab, Tahir, Mahmood, and Shafique contextualize their findings by emphasizing the differences between humanities research and research in other academic disciplines.

The authors note that research processes in the humanities are generally "unsystematic," "diversified," and "serendipitous," making research needs different from scholars in other areas. As such, although these characteristics point to the importance of resources in various formats, and although humanities scholars are aware of and interested in e-resources, Tahir et al. find that humanists generally prefer print because they are used to print and like to browse physical collections. In their survey, 69 percent of respondents preferred print and only 21 percent preferred e-resources.⁹ In their study of the use of e-books among faculty, staff, and (largely graduate) students, Revelle et al. found that half of their humanities-affiliated respondents were classified as "book lovers" who have an "inherent affinity for the print form" and "dislike reading longer texts off a screen."¹⁰

Other literature that addresses the humanities specifically focuses on the integration and reproduction of images in e-resources. Elam notes the largely negative response art historians in particular have had to the poor image quality of digital reproductions.¹¹ Robinson writes that art print journals should not be disposed of or discontinued because of poor image quality and incomplete content in their electronic journal counterparts.¹² Whalen tries to correct this trend, arguing that, although traditional concerns about low image quality in electronic resources are valid, such strong resistance to digital formats is creating a situation in which "art historians are jeopardizing the long-term vitality of their field by staying on the other side of the digital divide."¹³

Research also analyzes librarians' and library administrators' response to electronic resources, asking when they purchase such resources and why. Greco et al. point to various economic and technical issues, such as the serials crisis and the rise of open access technology models and electronic publishing as motivating academic library directors to buy increasing amounts of electronic resources.¹⁴

As budgetary pressures were already a serious consideration in 2007, it stands to reason that the economic collapse in the years that followed have made the situation even more dire for library administrators, who are now tasked with wringing as many resources from their dwindling budgets as they can.

In their survey of graduate students and faculty across a number of disciplines, Dillon and Hahn echo the majority of authors in the relevant literature in noting that faculty users of e-resources find that increased accessibility and searchability are the most significant advantages for electronic resources.¹⁵ Screen reading and the inability to annotate are consistently cited as the most significant disadvantages of electronic resources.

Several of the conclusions found in the relevant literature were confirmed by our study, but with qualifications. Our research indicates a need for more studies focusing explicitly on humanities researchers and their particular methodologies. There is also a clear need for literature that explores how humanities researchers actually use and interact with different kinds of electronic and print materials, not just how they perceive electronic versus print resources. Relatedly, the literature needs to examine the advantages and disadvantages of different kinds of print and electronic resources and the ways that such advantages/disadvantages facilitate different kinds of research and teaching methods. Such discussions will prepare librarians to make collection development decisions and to communicate more effectively with vendors to advocate for improvements in user interface design, by demonstrating an understanding of specific user needs and issues with specific products.

Methodology

To carry out this study, we invited full-time faculty in FSU humanities departments to participate in an anonymous, online survey. These strategies set our work apart from other studies we have

seen by focusing exclusively on humanities research *faculty*. We invited 200 faculty members in the departments of Anthropology, Art History, Classics, English, Modern Languages, Philosophy, Religion, and History to complete a survey that aimed to gather demographic data about humanities faculty at FSU and learn whether such faculty preferred print or electronic research resources, as well as more about how such faculty interact with print or electronic research resources (see Appendix A for Survey Questions). Out of the 200 faculty members we invited to take the survey, 102 faculty members started the survey and 101 completed it, giving us an outstanding response rate of over 50 percent.

After completion of the survey, we asked one to two faculty members in each humanities department if they were available for interviews. In selecting such faculty, we aimed to gather a representative sample of our survey population, choosing individuals who represented different ages/scholarly generations, different nationalities, different sexes, and different disciplinary approaches to research (even within the same department). We successfully conducted ten interviews. Although our sample of interviewees was significantly smaller than (constituting only 10 percent of) our sample of survey participants, such interviews allowed us to explore issues raised and addressed by the survey in more depth (see Appendix B for Interview Questions).

Survey and Interviews

The first section of the survey aimed to gather demographic information about participants and FSU humanities faculty in general. To assess approximate generational affiliation in terms of electronic change and digital technologies, we surveyed the decade in which participants received their doctorate. From this, we determined that, overall, the sample was a relatively young and digitally savvy group of scholars. We should clarify here that age and/or scholarly generation is not

necessarily related to comfort with digital technologies. One of our interviewees, who received the PhD in 2003, insisted that attitudes toward and comfort with e-resources is generational. However, another scholar, who received the PhD in 1993 was much more open to and embracing of online access, research, and reading than the first scholar.

Of 101 survey participants, 32 participants (31.7%) were female and 69 (68.3%) were male. By comparing answers by males and females to the same questions about the use of print versus electronic resources, we found that women were actually as embracing—if not more—of new technologies as/than men.

Nearly half (45%) of the respondents were literary scholars, nearly 20 percent were historians, 15 percent were archaeologists, and remaining groups were from religion, art history, and philosophy.

Of 10 interview participants, five (50%) were female and five (50%) were male. Two (20%) interview participants received their PhDs between 1980 and 1989; two (20%) received their PhDs between 1990 and 1999; and six (60%) received their PhDs between 2000 and 2009. Interview participants were from

the departments of Art History, Classics, English, History, Modern Languages, and Religion.

Interviews pointed to quantitative and qualitative limitations related to categorizing humanities faculty as research subjects by department or discipline. Every faculty member interviewed indicated the interdisciplinarity of his or her subject discipline. For example, Italian and Spanish Literature professors identified themselves as scholars of literature, Italian studies, gender studies, history, art history, film, cultural studies, folklore, and politics; art historians identified themselves as scholars of anthropology, archeology, literature and social history; English professors identified themselves as scholars of cultural studies and popular music; and religion scholars identified themselves as scholars of history, mythology, and philology.

The remainder of the survey tracked FSU humanities faculty's impressions of electronic and print resources and explored how they understand and use such resources. Answers to the first question, "The primary source materials in my research are: (select all that apply)," indicated that the most commonly used

FIGURE 1
Decade in Which Survey Participants Received PhD

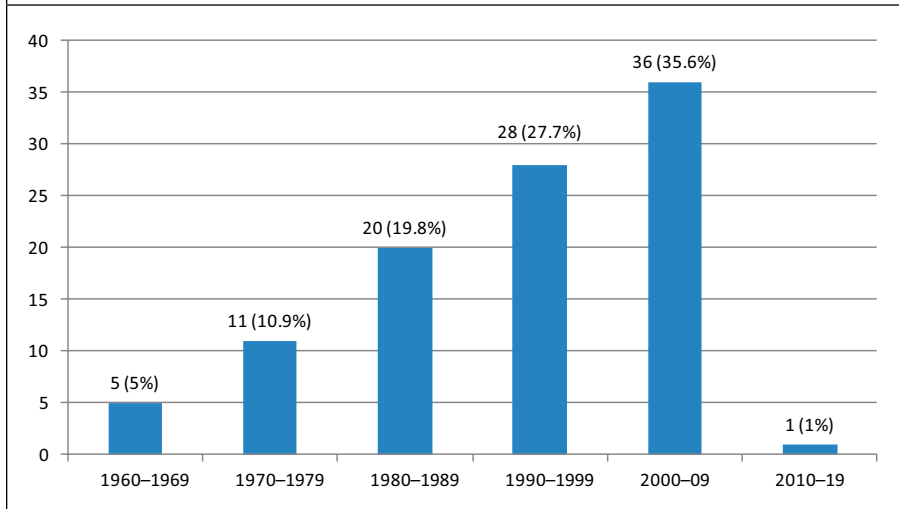


FIGURE 2
Breakdown of Survey Participants by Department

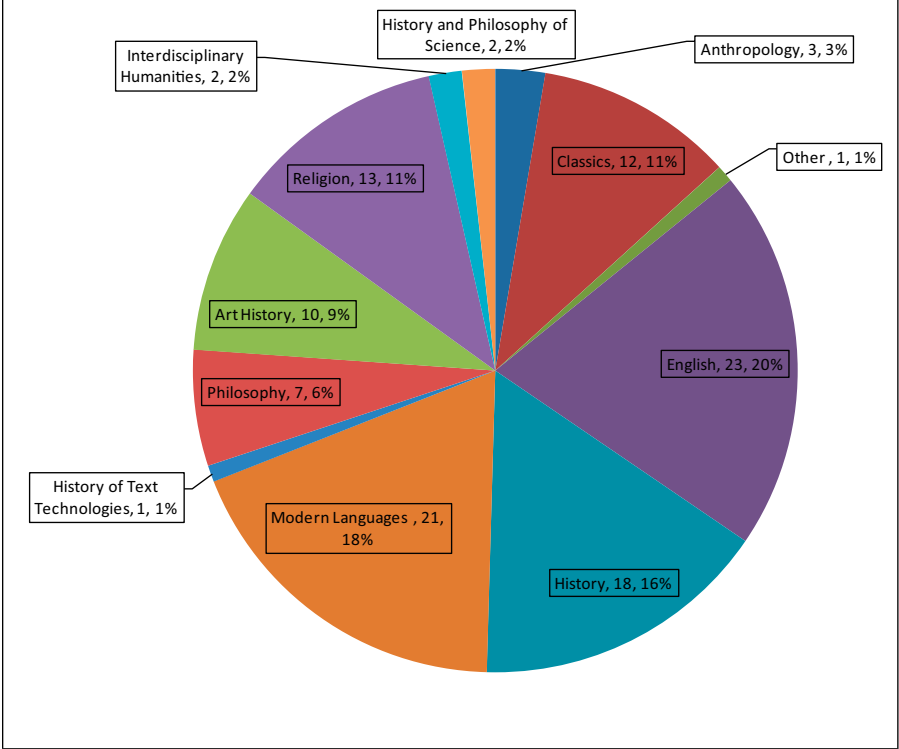


FIGURE 3
Decade in Which Interview Participants Received PhD

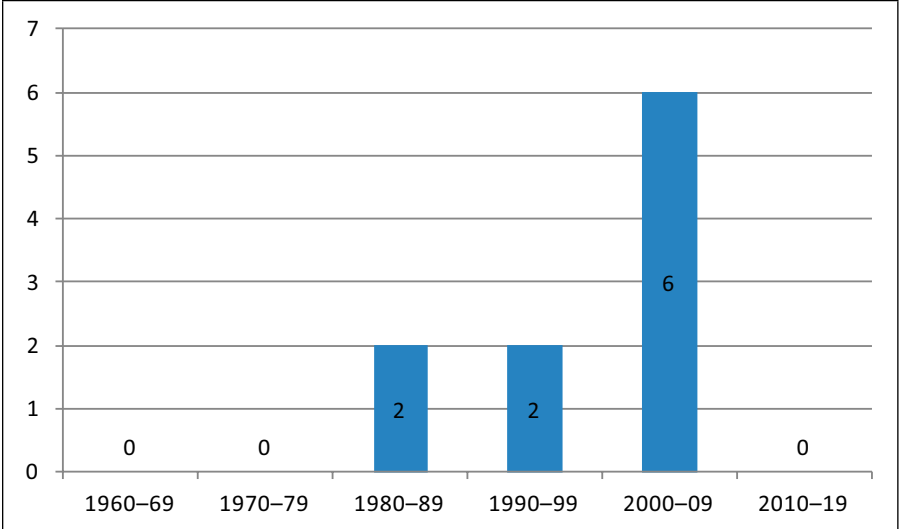


FIGURE 4
Breakdown of Interview Participants by Department

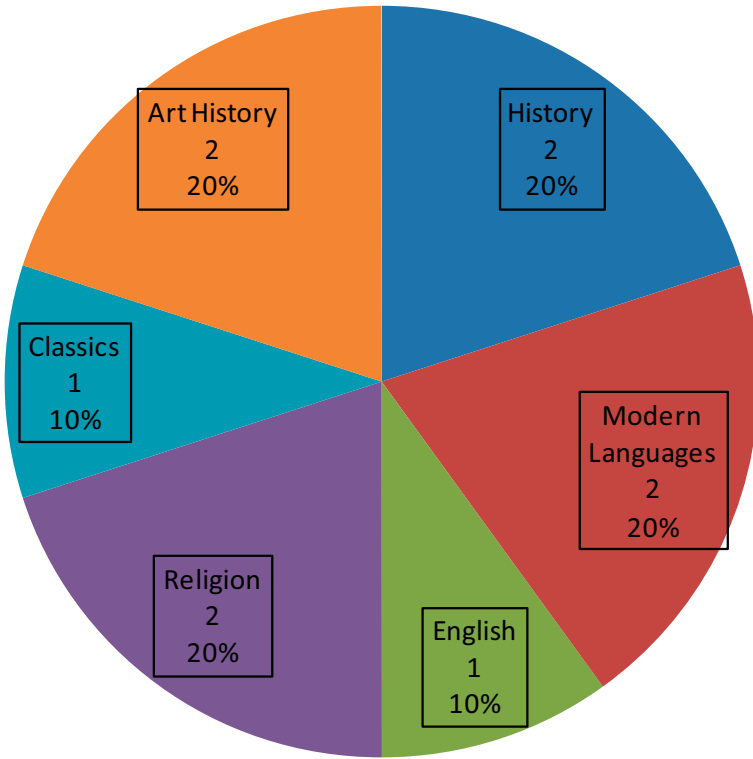
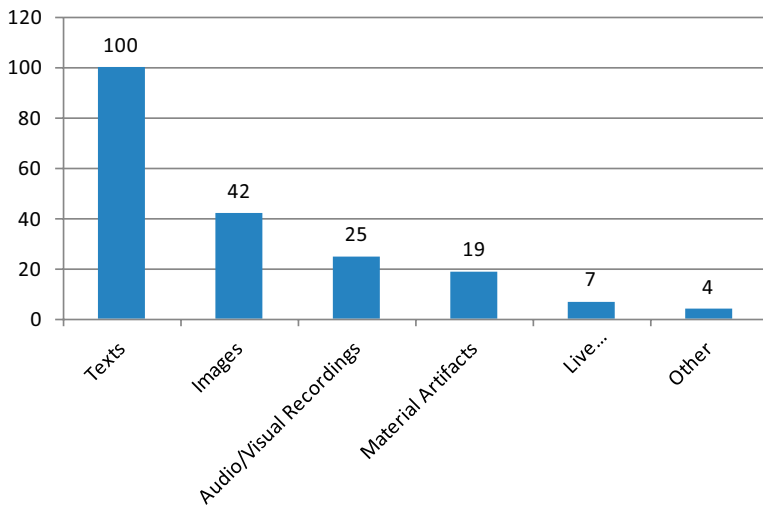


FIGURE 5
The Primary Source Materials in My Area of Research Are



types of primary source material by FSU humanities faculty are texts, as nearly 100 percent selected this option. After texts, the most popular type of material was images.

Survey questions designed to assess when and why print or electronically formatted materials were preferred indicated that preferences for print versus electronic formats often pertained to particular kinds of materials. The first question in which this division became clear was in the answer to this question: "In acquiring new materials for my area of research, I prefer the library to collect print, electronic, a copy of each, or it depends (please comment)." Out of 101 respondents, nearly half (49, 48.5%) answered "it depends," compared to 16 (15.8%) print, 17 (16.8%) a copy of each, and 19 (18.8%) electronic.

The comments related to the "it depends" selection generally indicated the preferences for specific kinds of materials outlined in the literature review above. For example, survey participants indicated a preference for print for books, texts, commentaries and materials with images; and a preference for electronic access to reference materials, dissertations, and periodicals/journals. In an interview, one of the scholars who indicated that s/he would prefer a copy of each if possible explained that s/he would rather have a primary source in print, "in my hand. But if the only print is in a library [somewhere] then it is fine to have it digital. The best way is print."

In another interview, a literary scholar explained that s/he wants immediate access to [online] images but prefers books in a print format and journal articles in an electronic format. Another literary scholar repeated such preferences, explaining that s/he "never [goes] to the library to look for a journal, but [does] go to the library to get books. Furthermore, some books need to be in print."

Although one of the scholars expressed a preference for dual print and electronic access, s/he explained that s/he has a fear of losing access if everything is electronic;

if the provider stopped carrying the product, s/he would be out of luck. S/he also expressed concern that electronic holdings are not always up to date and sometimes they are missing parts.

Respondents overwhelmingly agreed that they preferred the library to acquire print materials if the print was less expensive, thereby allowing the library to acquire more materials. Out of 96 respondents, 89 (92.7%) defined the statement "In the library's collection development for my area of research, I prefer to have the print copy if lower cost means the library can acquire more materials" as "true." The comments field revealed a few exceptions/nuances to these answers. One participant preferred print regardless of price, whereas one preferred electronic resources regardless of price. Others favored particular formats for different types of materials. The most common preferences were print for monographs and image-heavy content, and electronic for journals and rare primary materials. Some answers to this question also challenged original assumptions of this study and offered conclusions that departed from the literature review. For example, one participant made the important observation that, as digital technologies develop, *print materials are not necessarily less expensive*. Additional respondents also questioned the assumption behind the question by indicating that they were confused by the question. In fact, while we were conducting the study, we saw this shift within our own library, prompting us to ask this question again, in reverse, in the follow-up interviews to compare results: "In the library's collection development for my area of research, I prefer to have the *electronic* copy if lower cost means the library can acquire more materials." Most interviewed expressed the same preferences outlined above for different formats for different types of materials, regardless of which way the question was asked.

In answering the question "Aspects I like best about electronic resources

are: (Select all that apply),” survey participants selected from the following list: remote access, browsability, searchability, access to rare materials, pedagogical usefulness, and other (please comment). Re-iterating previous writing on the subject, respondents indicated that the greatest advantage offered by electronic formats is “remote access,” as 98 (97%) selected this as the aspect they liked best about electronic resources. However, the next most selected category was “searchability,” chosen by 72 (71.3%). Many comments also highlighted new forms of searchability and research made possible by electronic formats. Consider the following comments: “the ability to search 19th/20th century newspapers/journals in new ways can only be done via electronic databases,” “The search function cannot be over-rated,” and “I have to say that I think EEBO [Early English Books Online] is one of the best things that ever happened. It absolutely changed the way I teach, and it has made kinds of research possible that would have been completely out of reach for me previously. For instance, I was able to search full texts to find all the times [a particular historical figure]

appears in early modern print. That was fascinating, and led to a book chapter.” In the remaining categories, 50 respondents (49.5%) selected “access to rare materials,” 40 (39.6%) selected “browsability,” 33 (32.7%) selected “pedagogical usefulness,” and 4 (4%) selected other.

Answers to the question regarding “Aspects I like best about print materials are” similarly laid the foundation for a more complex dialogue about print materials as a particular technological format to be compared with electronic materials. Echoing the relevant literature, respondents revealed that the most important reason they continue to like print is that it is more comfortable to read from paper than a computer screen, with 81 (84.4%) out of 96 respondents selecting this response. Comfort reading print, as well as additional reasons for liking print as outlined below revealed that the preference for print was not just because of nostalgia, a “book lover” mentality, or humanities scholars’ slower adaptation to electronic technologies—as has been suggested by other researchers.¹⁶ Many respondents also indicated that they liked the browsability (49/51%), note-taking (47/49%),

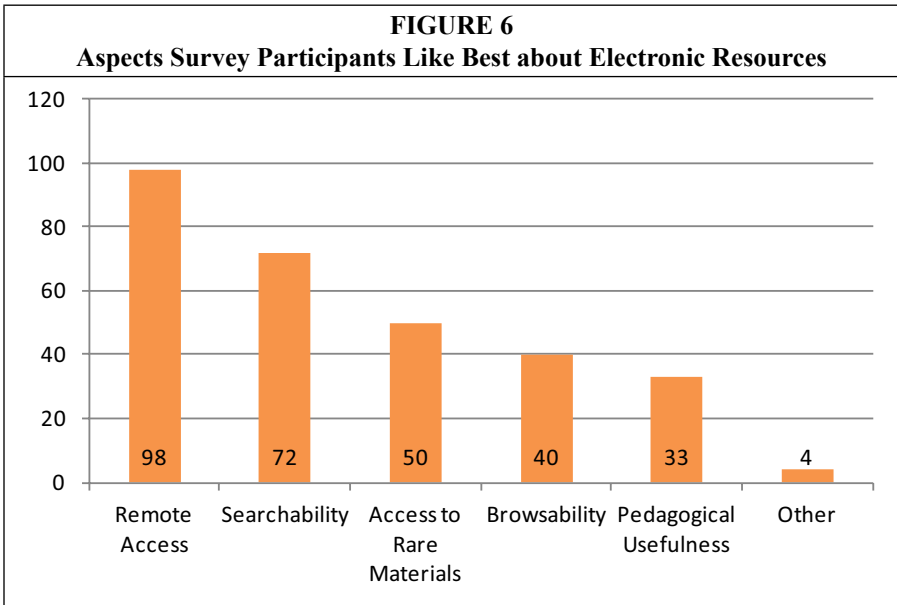
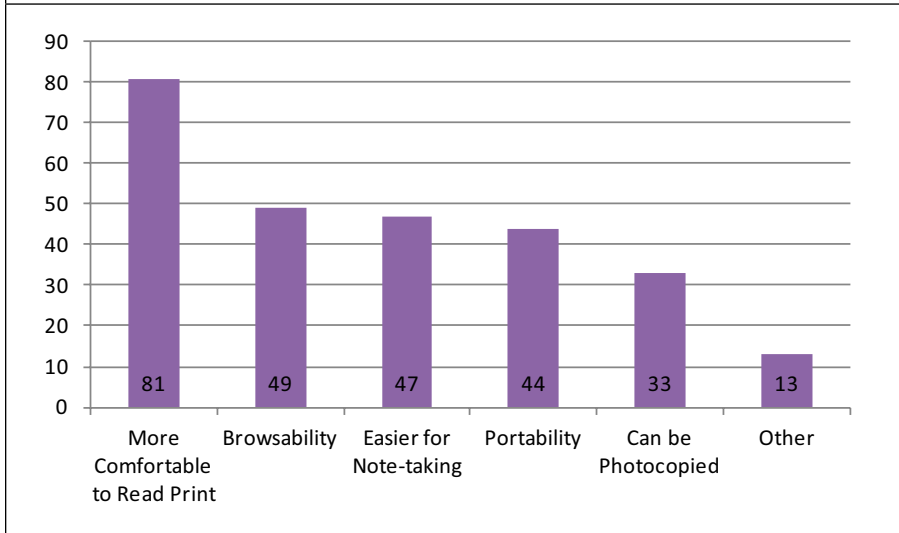


FIGURE 7
Aspects Survey Participants Like Best about Print Resources



and portability (44/45.8%) facilitated by print,¹⁷ which points to particular research and reading techniques and methodologies favored by the organization of print materials on the shelf in the library and the print book format.

Several survey participants highlighted the importance of having access to printed images, writing that “the images in electronic resources are generally good but do not print well” and “my field requires high-quality reproductions of artworks, and these generally are better in books than online media.” Other participants pointed to research methodologies favored by the organization of print materials on the shelf in the library, explaining that “wandering among the stacks has more often than not revealed secondary materials that I otherwise wouldn’t have considered”; “these are useful categories but in part miss the point because while each has its own value...the actual engagement with material in the library is missing. I think we have all had the experience of walking the stacks in a given call number and finding things that are useful or scanning indexes. This is difficult to replace electronically though electronic searches allow for things that are not

permitted in print. The print/electronic is a false dichotomy”; and “The process of searching among or in printed books is cognitively entirely different from that of searching online. Thus, other results can be achieved that complement what one can accomplish/find by electronic searches/browsing alone. In my view, both types of search together constitute a successful search”; and “I miss walking the stacks online, though I have figured out some equivalents.”

Interviewees also explained how their reading experiences differ when using electronic versus print materials. For example, they cannot physically read from a computer screen as quickly or for as long periods of time as they can read print; reading print is easier on the eyes. Also, they cannot replicate the relationship developed with a printed text with an electronic device. One can engage with footnotes and endnotes more easily with a printed text and remember approximately where in the book one read something relevant or interesting. As one scholar pointed out, “until digital [technology] progresses...it is still much easier to find references in print, because of visual memory. [Such memory aids us in finding

a place] within a book or a place within the library shelves." Others explained that it is easier to read an entire print text than an electronic one and that e-books and electronic texts therefore pose a danger that people will stop reading entire books. Other scholars acknowledged the nostalgic and objecthood aspects of books. As one interviewee explained, "I love books. I like touching them and holding them and buying them. I like old books. I like the smell of new books. Different presses have different smells." Finally, interviewees explained that, "although there is a lot of information in digital formats, there is a vast amount that [still] only exists in print." One user did argue, however, that past disadvantages of electronic resources, such as the limitations of browsability, note-taking, and portability were changing with e-readers, commenting: "since I can print out an electronic copy if I wish, or send it to my Kindle, print has no advantages over electronic."

Another important finding in the interviews was that, in general, librarians are more interested than patrons in the particularities of the interfaces/software designs that libraries purchase. Nearly half (four out of ten) subjects interviewed had difficulty identifying features they liked or disliked in the resources. In describing websites and databases that they liked to use, only two of the ten were able to describe the technical features they liked in certain resources, and all ten emphasized the content such resources made accessible, rather than the tools that one could use to display or analyze the content. In fact, two of the ten people interviewed could not remember the names of some of their go-to databases. In the discussion about e-books, only two volunteered the name of NetLibrary as the interface they were most familiar with. Two others recognized NetLibrary when they were prompted. This indicates that librarians play an important role in evaluating and selecting electronic resources on behalf of their constituents and in educating their patrons about the features of these

resources.

Issues with Image Quality in Electronic Resources

The results of the survey and interviews call attention to two themes that deserve more attention in evaluating print versus electronic resources for collection development. The first of these concerns issues arising with resources including images. In the survey results, images came up frequently as a deciding factor between formats when the respondent had indicated "it depends." Comments from faculty across disciplines noted a preference for print when it came to images and heavily illustrated texts, even when their general preference was for electronic texts. The general consensus seemed to be that where image content was concerned, electronic publications had not yet reached the quality or usability of print publications. Furthermore, problems such as poor image quality and missing images in electronic publications were identified as major barriers to use for some respondents.

Consider the following comments from the survey:

"When images are included in the work, always go for print."

"In Art History the image is primary. The images in electronic resources are generally good but do not print well. Often a periodical will not include all images..."

"Print materials in art history are far more sophisticated at this point than any electronic versions. This is primarily due to copyright restrictions (image reproduction is prohibitively expensive and often prohibited electronically)."

The above quotes represent some of the major concerns of image quality, image redaction, and copyright restrictions. It is also interesting to note that two of the

comments mention the discipline of art history in particular. The quantitative data show that image use is a factor across humanities disciplines. When asked what type of primary sources they used in their research, 41 percent of respondents selected images, second only to text at 100 percent. Only 9 percent of the total number of respondents were working in art history, so we can see that the issue has broad impact. Yet the qualitative data, collected through comments and interviews, show that the issue disproportionately affects those disciplines that are most reliant on the image, such as art history. For example, in one interview, a faculty member in English discussed the visual component in much of his/her research. The faculty member recounted that, when s/he came across a poor or missing image, it did not have a major impact on his/her work, "it just means an opportunity lost." By contrast, when asked about the impact of poor or missing images, one art history faculty member interviewed replied, "It depends, if the image is an important piece of that article, then it is almost useless. If the images are common, and you are really reading it for the way in which that object is framed, then it is not important at all." Even in this second case, the image plays a key role in giving meaning to the text; but, because it is readily available elsewhere, the impact is low. In fact, both art historians participating in extended interviews recounted searching for these images elsewhere, including print versions of the publication, Google Images, Flickr, databases such as ARTstor, and museum or archive websites. As one art historian noted, the images in scholarship are not only essential for gaining information, but they are also often copied for use in presentations or publications. This points to the impact of image quality as well as restrictions on copying images in electronic publications.

Such issues as those described above have led some faculty to develop negative perceptions of electronic resources. In some cases, this can result in a lack of trust

and a resistance to electronic formats, despite improvements over time. For example, image quality has greatly improved in many electronic publications, although image redaction, often due to copyright restrictions, remains an issue. Usability has also improved, although not to its fullest potential. Understanding this, it falls to librarians to play an advocacy role. Librarians must be advocates for the collections in keeping faculty informed about the availability and capability of new publication formats. In addition, librarians must be advocates for the faculty in communicating to publishers what our users need from their research materials. Faculty want electronic resources that at minimum offer the same resources as print materials, including illustrations, with the greater accessibility of being available online. At best, they want electronic resources that take advantage of the new possibilities of digital media. As one interviewee suggested, why not have books where the images open and zoom in, or where the passages are linked to supporting data? This will be an area to watch as publication practices continue to evolve.

The Importance of Examining the Container as Well as the Content

A second issue raised by the survey and interviews is a need to examine print and electronic formats as related sources that can be used together and enhance one another, rather than as oppositional resources that should be considered as either/or options. This reveals a need for the development of discipline-specific rather than one-size-fits-all policies for print withdrawal of duplicative electronic content. A major lesson offered by this study is that the type of information container must be considered in tandem with the information content, because the container determines the research method and process that the scholar uses to access and interpret the information.

This point is illustrated in particular by the assertion that "the print/electronic

[divide] is a false dichotomy." As the researcher who coined this phrase explained, thinking of print and electronic formats as separate entities ignores the issue of "engagement with material in the library" that is missing in electronic resources. Yet, at the same time, "electronic searches allow for things that are not permitted in print." This was illustrated by survey responders as they described how keyword searching facilitated new kinds of research in newspapers, journals, and imprints. Thus, organization of print materials on the shelf in the library and the print book format give rise to particular research and reading techniques and methodologies that offer different advantages from the techniques and methodologies related to electronic resources.

Another scholar explained how using print versus electronic formats lead to different social, scholarly processes and experiences. S/he spent a lot of time in libraries and knew the Library of Congress system, often finding books by walking the stacks. Her/his experience, which was a "process of intellectual discovery" that was "like a treasure hunt," might be different from that of her/his students because this experience "does not happen in an electronic environment in the same way, or in the same kind of social way." For example, studying slides for an exam in a group in the library is different from looking at slides online, typically at home alone. S/he describes the latter as a passive experience whereas the former involves active engagement and discussion.

Librarians need to understand the advantages and disadvantages of different formats for scholarly research and discovery, communication, interpretation, and instruction, and the need, in some cases, to provide both print and electronic access for these ends. Librarians must also recognize that it is not enough to ensure that their users have access to important content. They must ensure that the users have access to important content in the format(s) they need for optimal scholarly practice.

Conclusions

Our survey and interview findings corroborate several observations made by others examining these issues. The humanities faculty we surveyed and interviewed are aware of e-books but usually prefer to read the print versions, particularly when they are working with scholarly material (as opposed to leisure reading). Reasons for this include methods of interacting with the physical text and the role of browsing and serendipity in discovering materials within the library. These findings resonate with those of Levine-Clark, Rimmer et al., Tahir et al., and others.¹⁸ In addition, those we surveyed and interviewed who work with images echoed the concerns articulated by Elam and Robinson in regard to the issues of image quality and redaction, particularly as it affects art history collections.¹⁹

In other ways, our study expands upon and challenges others' findings and assertions. Most fundamentally, our research refutes the popular assumption that humanists have negative perceptions of electronic research materials based on an emotional attachment to print media.²⁰ In fact, the majority of humanities faculty we studied are engaged with digital technologies and are intrigued by the different advantages and opportunities offered by electronic formats. While much of the literature focuses on humanists' resistance to technology, this increase in engagement has been noted by others such as Ithaka and Tahir et al., whose literature review shows that, as new and better electronic resources emerged between 1996 and 2008, humanities faculty increasingly adopted those that assisted them with their research.²¹ Our study demonstrates that in 2011 this pattern has continued to increase, with even greater interest in electronic resources. Where resistance to electronic resources remains, it is largely framed as a practical problem, or set of problems, rather than as a simple preference.

Our study, like others, suggests that humanities faculty agree with students and faculty across academic disciplines

that the most significant advantages of electronic resources are the access and search features they offer.²² Of course, our study had a different focus from previous research, as we focused specifically on humanities faculty, collecting both quantitative and qualitative data, allowing us a more nuanced look at our users. The humanities faculty we surveyed and interviewed are not simply adding electronic resources to their repertoire of research tools or choosing between print and electronic resources; rather, they are engaging critically with electronic resources. These findings suggest a need for a more complex dialogue about print and electronic resources as particular technological formats to be compared with one another, both for humanists and the larger community of academic researchers.

The organization of print materials on the shelf in the library and the print book format give rise to particular research and reading techniques and methodologies that offer different advantages than the techniques and methodologies related to electronic resources. In choosing between print and electronic resources, librarians should not be concerned exclusively with the content; they should also be concerned with the format of the information container itself and the different kinds of research processes that different formats facilitate. Our study indicates that certain types of content are most useful in specific formats. For example, humanities researchers generally find access to journals in electronic form most useful. In addition, we have found that it would be optimal to have access to certain materials in multiple formats, such as image-intensive content, as well as some monographs and primary source materials. Such duplication facilitates different kinds of engagement with the content.

In light of growing faculty interest in electronic resources, the complexity of the distinction between print and electronic formats, and daily-evolving technological opportunities to increase accessibil-

ity, manipulation, and usability of these resources, we suggest that, *in some cases*, the collection development proposition can include selective duplication of print and electronic formats. In addition, as Rafi Mohammed suggests, publishers can offer bundled pricing for “both” instead of “either/or.”²³ Such *selective duplication* and bundled pricing models, together with informed either/or decisions, allow humanities faculty to benefit from the research opportunities offered by digital technology as well as print artifacts. It is important to recognize that each decision regarding the purchase of particular formats or possible duplication must be appropriate to the discipline and the instance.

In our own library, we have started to apply these lessons. As a result of the study, we reaffirmed some of our collecting processes and advocated for change in others. The findings supported our overall strategy of selecting electronic journals but mostly print books for humanities disciplines, with some variations based on the needs and preferences of each sub-discipline. The findings also reaffirmed an exception to our no-duplication collection development policy for image-intensive materials. This exception was introduced in response to the JSTOR weed and is now a standing feature of our collection development policy. Relatedly, since we initiated this study, space concerns and consortial pricing opportunities have encouraged the library to invest more in e-books. We have started a patron-driven acquisition program, which has shifted some humanities titles from would-be print selections into electronic format. In this context, the study prepared us to advocate successfully for selective duplication of e-books, allowing us to purchase the print by special request. At the same time, we possess a heightened awareness of the need for outreach and to help faculty to make the best use of electronic resources, including books. As we become more engaged in exploring new platforms, evaluating their features and usability, we remain cautiously op-

timistic about the role of e-books in the humanities.

With the rapid pace of technological change, it is also clear that we need to keep abreast of new developments and options in publishing and consider how these will affect readers. In the time since our initial survey was designed, we have seen new opportunities on the horizon. JSTOR and Project Muse have started to provide university press e-books, Amazon has reached the tipping point of selling more e-books than print books, and Coutts/Ingram has announced new options to provide downloadable e-books

for e-readers on a time-based circulation model. In addition, new databases with valuable primary source collections seem to be continually released. In fact, another way that our research has impacted our collection development practice is to offer us support in demonstrating the need for additional electronic resources in the humanities. Consequently, we have successfully advocated for the acquisition of a number of new primary source databases. We will continue our advocacy and engagement with new opportunities as we navigate developing humanities collections in the digital age.

Appendix A: Survey Questions

1. My FSU departmental (and program) affiliations(s) is/are:

2. The primary source materials in my area of research are: (Select all that apply)

- Texts
- Images
- Material artifacts
- Audio/visual recordings
- Live performances/rituals
- Other (please comment)

3. I received my highest graduate degree in:

- 1960–69
- 1970–79
- 1980–89
- 1990–99
- 2000–09
- 2010–19

4. I am:

- Female
- Male

5. In acquiring new materials for my area of research, I prefer the library to collect:

- Print
- Electronic
- A copy of each
- It depends (please comment)

6. In the library's collection development for my area of research, I prefer to have the print copy if lower cost means the library can acquire more materials.

- True
- False

7. The aspects that I like best about electronic resources are: (Select all that apply)

- Remote access
- Browsability
- Searchability
- Access to rare materials
- Pedagogical usefulness
- Other (please comment)

8. The aspects I like best about print materials are: (Select all that apply)

- Browsability
- Portability
- More comfortable to read than a screen
- Can be photocopied
- Easier for note-taking
- Other (please comment)

9. Concerning the library's selection of print vs. electronic research materials in the humanistic disciplines, what recommendations do you offer?

Appendix B: Interview Questions

GENERAL:

What disciplines do you research in?

Would you describe the status of research technology for the year you received your doctorate?

Follow up (if needed): What year was this?

PRIMARY SOURCES:

What kinds of primary sources do you use for your work?

Follow up (if needed): Materials indicated in the survey included: Texts, Images, Material artifacts, A/V recordings, Live performance/rituals, Archival materials, Interviews, Census/quantitative data, Documents. Which of these are relevant to you?

In what formats are these sources available?

In your research, have you used primary sources (or digital surrogates) in electronic formats? Can you give an example of a resource and how you used it?

Follow-up questions for image users:

Are images important in your work?

If so...

What is the impact of image quality or missing images on the usability of a resource?

How does this affect your working methods?

Do you seek supplementary resources for images? If so, where?

PREFERENCE FOR PRINT VS. ELECTRONIC PRIMARY AND SECONDARY SOURCES:

In acquiring new materials for my area of research, I prefer the library to collect: Print, Electronic, Copy of each, Depends

Why?

Does your preference differ for primary and secondary sources?

Follow up (if needed for additional info):

The aspects I like best about electronic resources are...

The aspects I like best about print resources are...

This question was in the initial survey: In the library's collection development for my area of research, I prefer to have the print copy if lower cost means the library can acquire more materials.

Since the time that we did the initial survey, we have seen new opportunities and new cost estimates, suggesting that the opposite may now be true. In the case that electronic copies were less expensive, would you prefer the library to collect electronic in your subject area if lower cost means the library can acquire more materials?

PERIODICALS:

When looking for periodicals, do you have a preference for print vs. electronic resources?

Do you like to have access both ways? If you have access to both, when do you use print vs. electronic? Can you think of a time when you accessed the print even though you had access to the electronic?

What are the advantages and disadvantages of using print or electronic formats?

If you could only have one or the other, which would you choose?

If you prefer to access periodicals electronically, which databases do you use? What do you like about these? What do you dislike?

Do you print out electronic articles or read them on your monitor?

BOOKS:

Do you like using e-books? What e-book platforms are you familiar with? What features in e-book reading platforms do you like? What do you dislike?

Does the capability of downloading to an e-reader appeal to you?

If you currently use an e-reader for your academic work, which do you use and what features do you like or dislike?

CLOSING:

Are there any other research resources that you like to use that haven't come up yet? Is there anything else you would like to add?

Notes

1. In addition to the MLIS, we hold graduate degrees in History, Art History, and Humanities. We were hired into various positions at Florida State University (FSU) between 2006 and 2010 where we have selected materials for and worked closely with faculty and students in the humanities.

2. In 2010, FSU enrollment was over 40,000 students, with approximately 20 percent of those graduate students (Florida State University Fact Book 2010-2011, Office of Institutional Research, www.ir.fsu.edu/Factbooks/2010-11/Students.pdf).

3. The survey project was designed by Humanities Librarians, Sarah Buck Kachaluba and Jane Marie Pinzino in 2010. The research team soon expanded to include Visual & Performing Arts Librarian, Jessica Evans Brady, and Graduate Assistant, Jessica Critten. Earlier stages of research were presented at conferences in 2011. Sarah Buck Kachaluba and Jane Marie Pinzino outlined the preliminary findings in their presentation "Selecting Print vs. Electronic Resources for Researchers in the Humanities: Collection Development With Limited Resources," at ACRL in

Philadelphia in April 2011 and Jessica Evans Brady presented preliminary results from a subset of art history faculty in "Surveying the Arts Perspective on Electronic Resources," at the Arts Section Discussion Forum at the ALA conference in June 2011.

4. Irma F. Dillon and Karla Hahn, "Are Researchers Ready for the Electronic-Only Journal Collection? Results of a Survey at the University of Maryland," *portal: Libraries and the Academy* 2, no. 3 (2002): 375–90; Michael Levine-Clark, "Electronic Book Usage: A Survey at the University of Denver," *portal: Libraries and the Academy* 6, no. 3 (2006): 285–99; Wendy Allen Shelburne, "E-Book Usage in an Academic Library: User Attitudes and Behaviors," *Library Collections, Acquisitions, and Technical Services* 33, no. 2/3 (2009): 59–72.

5. Maria Anna Jankowska, "Identifying University Professors' Information Needs in the Challenging Environment of Information and Communication Technologies," *Journal of Academic Librarianship* 30, no. 1 (2004): 51–66; A.W. McKiel, "Global faculty E-book survey sponsored by Ebrary" (2007), available online at www.ebrary.com/corp/collateral/en/Survey/ebrary_faculty_survey_2007.pdf [accessed 10 December 2010]; Hamid R. Jamali, David Nicholas, and Ian Rowlands, "Scholarly e-Books: The Views of 16,000 Academics: Results from the JISC National E-Book Observatory," *Aslib Proceedings* 61, no. 1 (2009): 33–47.

6. Michael Levine-Clark, "Electronic Books and the Humanities: A Survey at the University of Denver," *Collection Building* 26, no. 1 (2007): 7–14.

7. Jon Rimmer, Claire Warwick, Ann Blandford, Jeremy Gow, and George Buchanan, "An Examination of the Physical and the Digital Qualities of Humanities Research," *Information Processing & Management* 44, no. 3 (May 2008): 1374–92.

8. Roger C. Schonfeld and Ross Housewright, Ithaka, "Chapter 2: The Format Transition for Scholarly Works," *Faculty Survey 2009: Key Strategic Insights for Libraries, Publishers, and Societies* (Ithaka, 2010), available online at www.ithaka-s-r/research/faculty-surveys-2000-2009/Faculty%20Survey%202009%20CH2.pdf [accessed 02 November 2010].

9. Muhammad Tahir, Khalid Mahmood, and Farzana Shafique, "Use of Electronic Information Resources and Facilities by Humanities Scholars," *Electronic Library* 28, no. 1 (2010): 122–36.

10. Andy Revelle, Kevin Messner, Aaron Shrimplin, and Susan Hurst, "Book Lovers, Technophiles, Pragmatists, and Printers: The Social and Demographic Structure of User Attitudes Toward E-Books," *College and Research Libraries* 76, no. 4 (July 2012).

11. Barbara Elam, "Readiness or Avoidance: E-Resources and the Art Historian," *Collection Building* 26, no. 1 (Jan. 2007): 4–6.

12. Adam Robinson, "University of Kansas Print and Electronic Journal Comparison Study," *Art Documentation* 29, no. 1 (Spring 2010): 37–40.

13. Maureen Whalen, "What's Wrong with this Picture? An Examination of Art Historians' Attitudes about Electronic Publishing Opportunities and the Consequences of their Continuing Love Affair with Print," *Art Documentation* 28, no. 2 (Oct. 2009): 13–22.

14. Albert N. Greco, Robert Francis Jones, Robert M. Wharton, and Hooman Estelami, "The Changing College and University Library Market for University Press Books and Journals: 1997–2004," *Journal of Scholarly Publishing* 39, no. 1 (2007): 265–96.

15. Dillon and Hahn, "Are Researchers Ready," 380.

16. See, for example, Shrimplin et al., "Contradictions and Consensus: Clusters of Opinions on E-books" and Schonfeld and Housewright, "Chapter 2: The Format Transition."

17. Following selections were: "can be photocopied," selected by 33 (34.4%), and "other," selected by 13 (13.5%).

18. Levine-Clark, "Electronic Books and the Humanities: A Survey at the University of Denver"; Rimmer et al., "An Examination of the Physical and the Digital Qualities of Humanities Research"; Tahir et al., "Use of Electronic Information Resources and Facilities by Humanities Scholars."

19. Elam, "Readiness or Avoidance"; Robinson, "University of Kansas Print and Electronic Journal Comparison Study."

20. One example of a place this popular assumption appears in academic literature is Revelle et al., "Book Lovers, Technophiles, Pragmatists, and Printers."

21. Schonfeld and Housewright, "Chapter 2: The Format Transition for Scholarly Works"; Tahir et al., "Use of Electronic Information Resources and Facilities by Humanities Scholars," 133–34.

22. See, for example, Dillon and Hahn, "Are Researchers Ready," 380; Levine-Clark, "Electronic Books and the Humanities: A Survey at the University of Denver"; and Tahir et al., "Use of Electronic Information Resources and Facilities by Humanities Scholars."

23. Rafi Mohammed, "How about 'Both' Instead of 'Either/Or'?" *Publishers Weekly* 257, no. 22 (May 2010): 52.