E-book Use and Value in the Humanities

Scholars' Practices and Expectations

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*A research project to study e-book adoption in the humanities was conducted at
the University of Illinois at Urbana-Champaign (UIUC). This study had multiple
components. Data were collected from a demand-driven acquisition program in
humanities disciplines utilizing short-term loans purchased via an e-book aggre-
gator. The study measured the choice of an e-book over print by reviewing print
availability as an e-book loan was initiated. Use transactions were examined and
categorized to determine levels of e-book use. Scholars from disciplines matching
the Demand-Driven Acquisitions (DDA) offerings were invited to take a survey
on e-books. Scholars were asked about their view on the adoption of e-books,
e-book values, the role of print books in the future and factors in their choice of
book format. The data showed a split in acceptance of electronic versus print. The
data also show that although humanists may lag behind other disciplines in incor-
porating e-books into their research, they believe e-book availability and use will
increase. Many would like to see more e-books available in their disciplines. The
e-book format is appreciated, but scholars may also want the full text along with
the print because of the varied types of reading employed by humanities scholars.*

E-books are a topic of interest to librarians from all library types and all sub-
ject disciplines. Librarians at the University of Illinois at Urbana-Champaign
(UIUC) have published studies on e-book use and value that specifically focused
on science disciplines. Chrzastowski's 2011 study revealed that physical and life
scientists used and benefited from early adoption of e-books on campus, but
these conclusions did not inform bibliographers and collection decision-makers
in other disciplines at her institution.[1] It seemed intuitive that the use of e-books
by scientists would not necessarily match those of humanists or social scientists;
certainly the volume and availability of current e-books to scientists was initially
greater than for other disciplines, at least at UIUC. However, the question of use
in other subjects had not been explicitly addressed and required investigation.
When the opportunity arose to continue conducting e-book research in another
discipline, the humanities became the focus simply because e-book purchasing
was of low volume in this area, and the investigators wanted to explore why.
IMLS grant funding made it possible to examine e-book use and perceptions in
the humanities using two methodologies, a Demand-Driven Acquisition (DDA)
study using ebrary's (a major vendor for aggregated e-book access) title list and
platform, and a survey of faculty and graduate students in the six areas matching

the DDA research: architecture, art, classics, history, music, and religion/theology.

Research questions for the study focused on humanities scholars' perceptions of e-books compared to print and their thoughts on future e-book availability in their discipline. Their answers are important in weighing collection decisions in the near future because bibliographers welcome information about the use of materials added to the library's collections. Humanities scholars' input on e-book use covers not only content but also format, the platforms to access content, navigation and viewing options, and devices used to access the text. Use is affected by purchase options where use may be limited because of the number of user constraints or by the digital rights management (DRM) set by publishers.

Specific research questions from this study include the following:

- What characteristics or circumstances drive the choice to use an e-book versus print?
- How important is accessibility and availability when weighed against the more traditional print use that can include, for example, the need to annotate text or lay open the pages of a print book?
- What type of reading do humanists do when using an e-book?
- What qualities or capabilities do humanists expect in an e-book?
- Do humanists believe that e-books will see both more availability and user adoption in their discipline in five years?

Literature Review

The authors looked at the literature in several areas for this study to best establish a frame for understanding humanities research and what that may look like in the digital arena. The discipline demands extensive use of monographs and it was important to know how these scholars read text. Therefore the literature review covered three areas: DDA models that include e-books simply to establish the effectiveness of that model, research about how scholars read and what it means to read in a digital environment, and users' interactions with e-books, specifically humanists' use of academic e-books.

The literature on DDA is fairly extensive, considering the short time this collection development strategy has been available. Kaczorowski published a thorough annotated bibliography of DDA research that covers the literature from approximately 2009 to 2012.[2] He notes that there is a paradigm shift underway as more libraries implement DDA; e-books are being made available to users more frequently and are consequently growing as a format in library collections. The consensus among the authors included in Kaczorowski's bibliography is that DDA is a supplement to traditional collection development, not a replacement. One of the more recent and most comprehensive documents on monographic DDA is the "NISO Best Practices Demand-Driven Acquisition (DDA) of Monographs" (www.niso.org/workrooms/dda/), which provides an overview with recommended practices for all library types.[3]

Because this study looks specifically at the humanities' use of e-books, it was important to understand how reading and research differ between disciplines. Studies have been conducted and opinion pieces written on not only the nature of reading and how it relates to the digital environment but also on the effect of the online revolution on learning, leisure reading, intensive reading, and work-related reading. E-book readers and devices and text formats ranging from PDF to ePub (electronic publication) are also part of the mix. Those that shed light on how academics read text and how e-content matches their needs with devices and platforms are an important part of the e-book puzzle. There is currently little known about how individuals read text (print or online), and this research is exploring new ground.[4]

Hillesund reported on a university study of reading by scholars on the basis of interviews he conducted. He labeled a variety of reading types used by the scholars whom he referred to as "expert readers."[5] Those types included immersive or deep reading, where the user may be immersed in the story or imagery that the story produces for them, or it may be reflective of when the reader is engaged with points made in the text. Those points may frame an argument or connect the reader to a new perspective and encourage deeper understanding of the subject. Reading is also described as continuous, discontinuous, and nonlinear. Continuous is linear and sequential, and Hillesund compares it to reading a novel, whereas discontinuous refers to reading "out of order," and the reading moves around in the text. Employing both together is referred to as "sustained," when the time spent reading is lengthy. He further qualifies discontinuous as being "fragmented" if it includes multiple texts of different material. Sustained reading may see the reader actively engaging with the text with annotations, note taking, comparing additional texts, or engaging with different parts of a printed book. Scholars read deeply but not smoothly from page to page, and the activity is highly individual and active. Librarians are not surprised about this, and libraries support and provide options to meet their users' differing needs. In 2010, Hillesund concluded in part that a significant challenge was to support sustained reflective reading, and he did not think digital text could replicate the printed text. One question this study sought to address is, do our humanities scholars utilize e-books for sustained reading and do they believe the online format supports this type of reading?

MacWilliam reported on an e-book use study that summarizes e-reading issues.[6] The study offers a review of how scholars engage with text and provides a framework for considering devices and platforms related to reading needs. He points out that content must be distinguished from a device or a platform. McKay describes a study of e-book use by researchers using material provided by their library at the Swinburne University of Technology in Australia.[7] The study sought to determine how users actually read e-books. The use study was facilitated by the library's DDA provider EBL, using 1,200 user session transactional logs that were analyzed and categorized by the actual reading done. The authors saw a range of behaviors including both sequential and nonsequential page views. They concluded that their participants used the nonlinear style most often when reading e-books. The transactional logs revealed that readers went back and forth a lot in the texts they used. The authors further described this reading as page hops, section reads, quick skims, and flipping around with some continuous reading employed.

Staiger published a review article, "How E-books Are Used," that covers the literature from 2006 to 2011 and reviews approximately two dozen e-book studies conducted by academic libraries.[8] Many of the studies that he reviewed focused on the "use rather than read" concept, meaning that users prefer print books for "deeper" reading and "use" e-books rather than deeply "reading" them. Staiger also points out that many studies agree that print and electronic can coexist and it is not a competition between the formats. He calls for future e-book use research to focus on use by discipline and type of material (e-reference, e-textbook, and e-book).

Two recent studies specifically considered humanities scholars' use of e-books and e-resources. Dahl reviewed recent library literature and concluded that humanists' growing acceptance of electronic resources, significant reliance on the monographic form of publishing, heavy use of library catalogs, and the increasingly interdisciplinary nature of their work mean that e-books and DDA programs can be viewed as largely compatible with their needs.[9] Kachaluba et al. surveyed 101 humanities faculty at Florida State University (FSU) (with follow-up in-person interviews with approximately 10 percent of respondents). Their results found both similarities and differences when comparing humanities faculty members' format preferences for reading and research to previous studies. The FSU humanities faculty appreciate the benefits of print (browsing, serendipity, copyright and image reproduction rights) while moving toward digital engagement and acknowledging the benefits of e-resources (availability, accessibility, searching capabilities).[10] These findings fit closely with this study's findings: "Where resistance to electronic resources remains, it is largely framed as a practical problem or set of problems, rather than as a simple preference."[11] The problems may be the platform, the device used, the format, or the limitations placed on the use, or simply because of some physical discomfort experienced with on-screen reading.

Method: Demand-Driven Acquisitions

As previously cited, many DDA studies have been tested and implemented over the past five-plus years and DDA programs have become increasingly commonplace in academic libraries. Since UIUC had already implemented many DDA programs (all with ebrary), the process was familiar. This was, however, the first time that short-term loans (STLs) were explored. Previous programs were for purchases triggered by use that exceeded specific thresholds and were budgeted for accordingly. UIUC has made DDA available for both print and e-book formats and found both these formats in a DDA program to be a successful and cost-effective way to provide materials to users within a given subject profile. The purpose of this DDA study was to provide humanities researchers access to a wide variety of academic e-books to gauge their interest and to determine their preferences. Wiley and Clarage's research found "titles purchased on demand do have repeat use . . . they cover all subjects . . . and that users are satisfied. Experimentation with concepts such as DDA overall leads to a better exploration of new processes that can maximize resources while meeting users' needs."[12]

The basic method for this DDA study is outlined below:

- Work with a major e-book content provider (ebrary), a vendor that works with publishers to aggregate that content on one platform, to identify titles available for a DDA program.
- Create a profile for humanities monographs by making a wide array of titles from mainstream academic presses available in the UIUC online catalog for STL (with a purchase to follow on the basis of use).
- Allow user access and discovery to these titles for six months.
- Monitor daily use and check for overlapping print copies and their availability.
- Track detailed use through a transaction log.
- Monitor costs, making sure expenditures match projected expenses, or be prepared to stop the project if funds are depleted.
- Analyze cost and use by subject and publisher.
- Analyze how e-books are used by employing a rubric on types of use based on transactions. The rubric was based on page views, page prints, and copies via cut and paste. Chapter downloads were an option for only a fraction of the titles because of publisher-set DRM
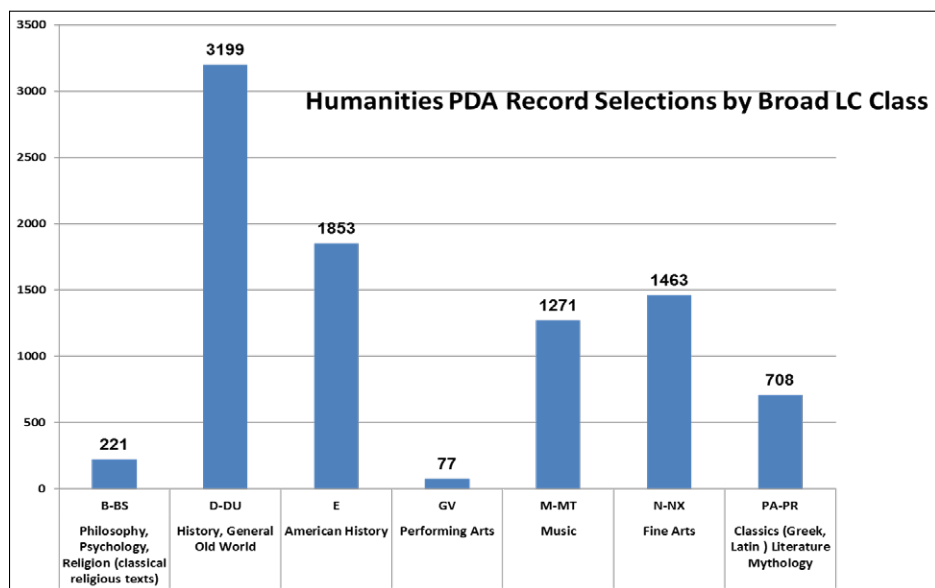
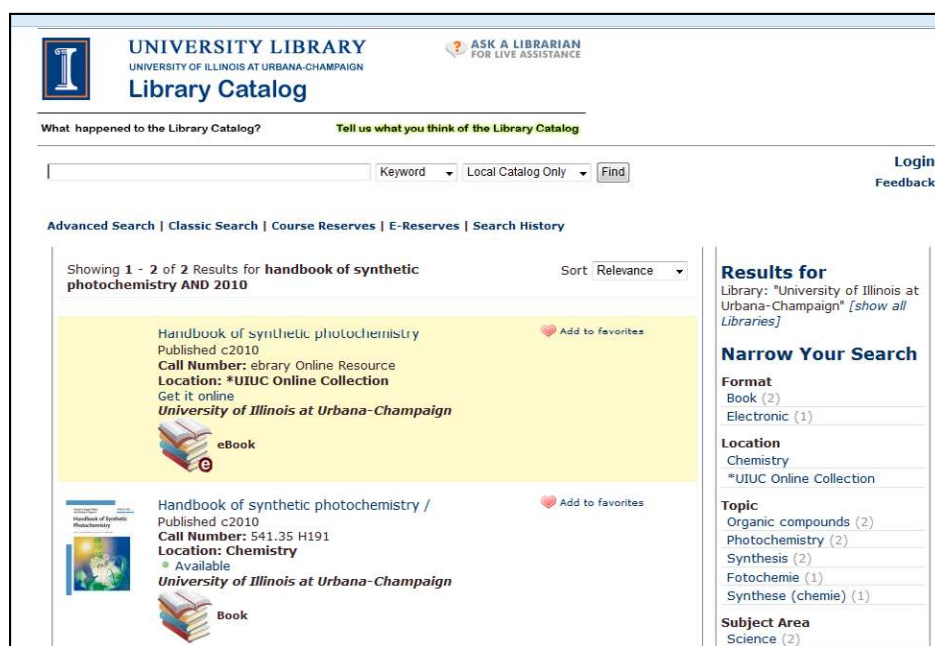**Figure 1.** Humanities PDA Record Selections by Broad LC Class

Figure 2. Example of a Record for an E-book versus a Print Copy of a Title

represent discrete units on campus that could be invited to participate in the survey. The UIUC subject selectors for these disciplines were consulted before the study began and provided insight and assistance. Ebrary initially provided a list of more than 260,000 titles available from participating publishers who offered their content for library DDA STL programs. These covered all disciplines, a wide range of copyright years, and were from trade and university presses. This list was weeded (via a Microsoft Excel spreadsheet) using parameters agreed on for the study, including limiting by subject to the six humanities disciplines and eliminating nonacademic content, literature, serials, and imprints before 2000, and any readily identified reference title (dictionaries, handbooks, or directories). The limitation on copyright date was imposed to keep the number of records within reason and to better match the records to print copy availability. The DDA focused primarily on university press titles but also included titles from a few well-known and important trade publishers. The profile created a set of 8,792 monographic e-book records in the selected humanities disciplines. These titles were added to the UIUC OPAC in November 2012 with a proxy prefix for off-campus access. The data from this study cover the period from November 2012 to April 2013, or approximately six months. Figure 1 shows the distribution by subject of the 8,792 records loaded into the UIUC Voyager catalog. The distribution was directly attributable to the number of e-books available for each subject area via ebrary, i.e., a large number of history e-books are available and therefore make up a large portion of the study sample.

UIUC uses two separate bibliographic records when one format is an e-book. For this study, both electronic and print records were displayed to the user from a title or author search as separate records. E-books are prominently and therefore not included in the transactions analyzed.

Six humanities disciplines were selected for the study: architecture, art, classics, history, music, and religion/theology. They were chosen because they are representative of the humanities as a whole, library bibliographers dedicated to these disciplines provided support, and they
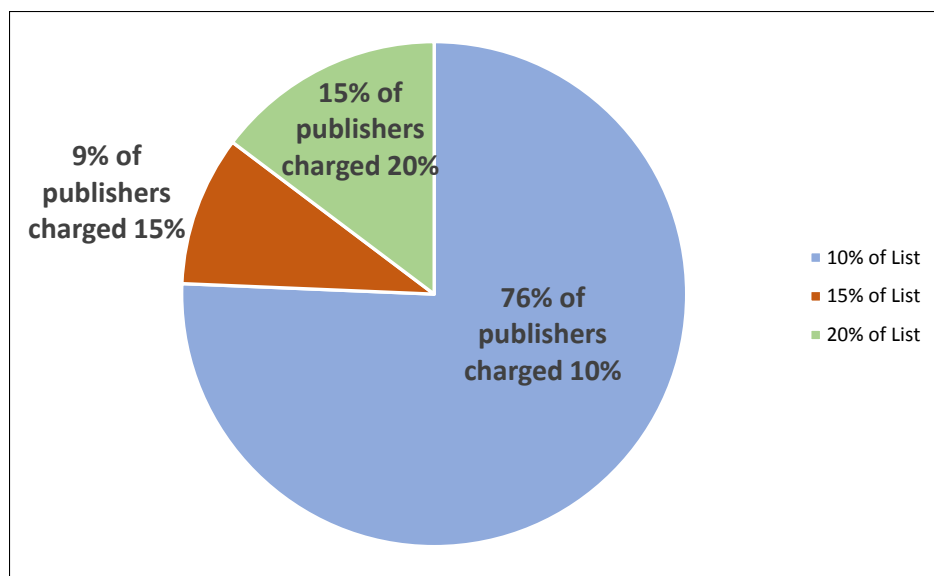
Figure 3. Percentage of List Price Assessed per Loan

(Pie chart showing: 76% of publishers charged 10%; 9% of publishers charged 15%; 15% of publishers charged 20%. Legend: 10% of List, 15% of List, 20% of List.)

marked as such in the brief title display to better lead users to this type of access. Figure 2 provides an example of the record for an e-book versus a print copy. Links to DDA e-books were available from the records loaded in the OPAC and could also be found on the UIUC ebrary site. Once at the UIUC authenticated ebrary platform, users could freely explore any of the 8,792 titles available for DDA.

The primary reason to use STLs in this DDA project was the limited budget. The library could not purchase all 8,792 titles because of their cost (a conservative estimate of $50.00 per title would have equaled close to half a million dollars). It was also likely that all those titles would not be used nor desired by UIUC humanities scholars and students as they are engaged in research very specific to their field and interests. To gauge use and interest at a granular level, the decision was made to employ the STL option with the opportunity to purchase a title after a predetermined number of STLs. In this DDA model, when a user accessed a title on ebrary's platform by clicking on the UIUC record link, a twenty-four-hour STL was initiated. During the loan period, the first user and subsequent users could explore the content (though with restrictions predetermined by each publisher). In this study, the authors chose to purchase an e-book when a third STL was initiated. Each loan resulted in a fee of 10–20 percent of the list price charged to the account. Figure 3 provides a breakdown by the percentage charged. The total purchase price at the third loan was the list price added to the previous two STL fees.

Although seemingly the more expensive path, this option proved to work exceptionally well and enabled users to sample many more titles while staying within the study's budget, which was approximately $6,000.00. Not surprisingly, STLs far outnumbered outright e-book purchases during the study period as users preferred to sample many titles before an e-book garnered enough multiple loans to trigger a purchase. There is no question that STLs allowed users to access many more titles and to use extensive amounts of each title's content within a reasonable set budget. Use and cost outcomes are available in the Results section below.

Publishers determine the parameters of e-book access provided by vendors, the mix of titles offered to those third party vendors, the price, and how content can be used. Ebrary serves as the vendor and supplies the platform, but publishers decide their own specific rules for a myriad of options. For this program, options included page views, page printing, and saving text, chapters, or the entire book, to other devices. The download option was rarely available, and page views were the one use metric consistent for all the loans. Image display (image availability and or resolution) is often an issue and especially for art history monographs as publishers cannot always obtain the rights to publish an image reproduction in an e-book format. These rights management issues are widely understood by librarians, though grudgingly accepted with frustration. Users become confused when "rules change" during a single ebrary session while accessing e-books from different publishers. E-book users are not aware that each publisher decides how an e-book can be used. This frustration was reported repeatedly in survey responses and is discussed in that section of this paper. The STL fees are also set by each publisher and are subject to change with terms agreed on between the vendor and the publisher, not generally with the library as the client.

Another specific purpose of the study was to compare the use of e-books to the same title in the UIUC print collection, if owned. This was done to help determine whether there was any format bias by humanists. Access to ebrary e-books for titles owned in print format at UIUC was deliberately included to compare use. A notification of any STL use was received by the authors via an email alert from ebrary within twenty-four hours of that use. Each title was then cross checked in the UIUC catalog for print ownership and availability. These data were logged into a report that was updated daily. Access to print materials at UIUC is designed to be as easy as possible. A simple click to request a book from the record will provide next-day retrieval and subsequent office delivery. The service makes access to print

titles an easy, quick, and convenient option comparable to online access if the book is available and therefore a choice to measure in this study.

A prepaid deposit account was created for the study. The study's initial budget was based on other DDA studies conducted at UIUC, and it was estimated that a $6,000 deposit would last approximately six months. Ebrary's weekly reports and real-time, immediate updates for STLs, plus preset alerts for budget levels, made it easy to monitor all DDA costs through the ebrary administrative account. Full control over the account was provided by ebrary so that the project could be disabled if the deposit funds were expended. Initial estimates proved to be fairly accurate and the study was allowed to run for six months with only a slight overspending of the initial estimate. Additional funds were added to continue the project through the full six months.

Results of the Humanities Demand Driven Acquisitions Program

There are many ways to measure e-book use, and ebrary provides multiple points of data on use. In the six months of the study, UIUC's humanities users generated:

- 1,536 total e-book user sessions, defined by ebrary "as the number of times a title is opened and the user performs at least one copy, print, view (page turn), or download."[13]
- 529 STLs over the 1,536 user sessions
- access to 385 unique titles

The 1,536 user sessions saw the following use metrics:

- 43,215 e-book page views
- 1,710 pages printed
- 605 e-book chapter downloads

The study resulted in 156 single-user sessions (with one user per one book), seventy multiple-user sessions (2 users per one book) and 158 with three or more user sessions (3+ users per book) with a total of 1,536 sessions. These multiple user sessions could occur within one STL. This helps explain why, despite the high volume of user sessions, that only forty titles generated a purchase at the third STL during the six month study. The authors authorized the purchase of those e-books that did not trigger a purchase but showed significant use in the number of views, downloads, and unique user sessions. These purchases were made at the end of the study to preserve access to those titles. Examples of significant use titles that did not get to the 3 STLs but were subsequently purchased are shown in table 1. The majority of the post DDA purchases were already owned in the print format.

The number of STLs generated during the study far outnumbered triggered purchases. Figure 4 shows the number of both types of user access and their cost. Costs totaled $2,587.00 for forty purchased titles (excluding STL fees) and $3,736.00 for 489 STL uses, for a total cost of $6,323.00. The average total cost per purchased title would include the STL fees and was $80.81. The average cost per STL was $7.76. Purchased titles were higher in cost than if purchased outright due to the cumulated STL fees.

Figure 5 shows the status of the 529 STL titles that were accessed via ebrary compared to print copy ownership and their availability at UIUC. At UIUC, print books can be charged through the online catalog from anywhere and delivered to offices or a nearby library on campus. Minimal effort is required to request a print book delivery, and print availability and the user time invested in retrieving a copy is closer to an online copy than may be true at other libraries. The choices for users in this study were to use the e-book for immediate access, request the print book for delivery, or go to the library to pick up the print book, the majority

Table 1. Actions Generating Short-Term Loans (STLs)

Two Short Term Loans Top 5	Three Short Term Loans Top 5 (purchased)
User Sessions:	User Sessions:
-19	-54
-18	-40
-16	-40
-9	-39
-9	-29
Page Viewed:	Pages Viewed:
-4,222	-4,021
-340	-1087
-334	-1020
-293	-1006
-284	-726
Pages Printed:	Pages Printed:
-172	-263
-125	-138
-105	-113
-10	-91
-9	-42
Chapter Downloads:	Chapter Downloads:
-18	-31
-6	-24
-5	-20
-5	-19
-4	-18

of which were available. Faculty and graduate students at UIUC can charge a book for sixteen weeks. A book can be recalled or requested from another academic library in our consortia should local availability be an issue or, in this study, accessing the e-book copy was another option.

When a user initiated one of the 529 STLs for an e-book in the study, 80 percent of the DDA STLs (425 STLs), were already owned in print at the Library. In 248 instances of 425 matches of owned and available titles (58 percent), a user in the humanities elected to use an e-book when the print book was available and when that book could have been delivered to the user at their campus office. Fifty-eight percent of users who were able to see both print and e-book availability in the online catalog opted to use the e-book rather than request the print book. It is possible that a print copy was requested sometime after an e-book was opened during a user session as a user was motivated to then seek that text. Our examination of availability was only done within twenty-four hours of an STL alert. If a book was subsequently requested, it would not have been immediately obvious. This question warrants more investigation as the perusal of the online copy may have led a user to the print for traditional reading. This study indicates that more researchers elected to consult the e-book first. A total of 20 percent of the STLs were for titles not owned at the time the DDA e-book was accessed, and therefore those users had no other option but to use the e-book.

The significance of this ownership, availability overlap, and user preference for the e-copy indicates the following:

1. The UIUC collection was robust before the DDA, with print holdings that matched the online version and that showed a continued user interest.
2. More users elected to immediately explore the online content of the e-copy in lieu of immediately requesting the print.
3. A total of 41 percent of the 425 books owned were

Figure 4. Purchase Cost versus STL Cost

Figure 5. User Choice for the E-format when Print was both Owned and Available

not available and were checked out to other users, and having an e-copy offered users more access. This metric also indicates that users are making good use of UIUC's print collection.

In his 2006 study of humanists' e-book use at the University of Denver, Levine-Clark concluded from his data that humanists "only use the electronic version as a backup when print is not available."[14] This study does not point to that conclusion for UIUC. The six years difference between
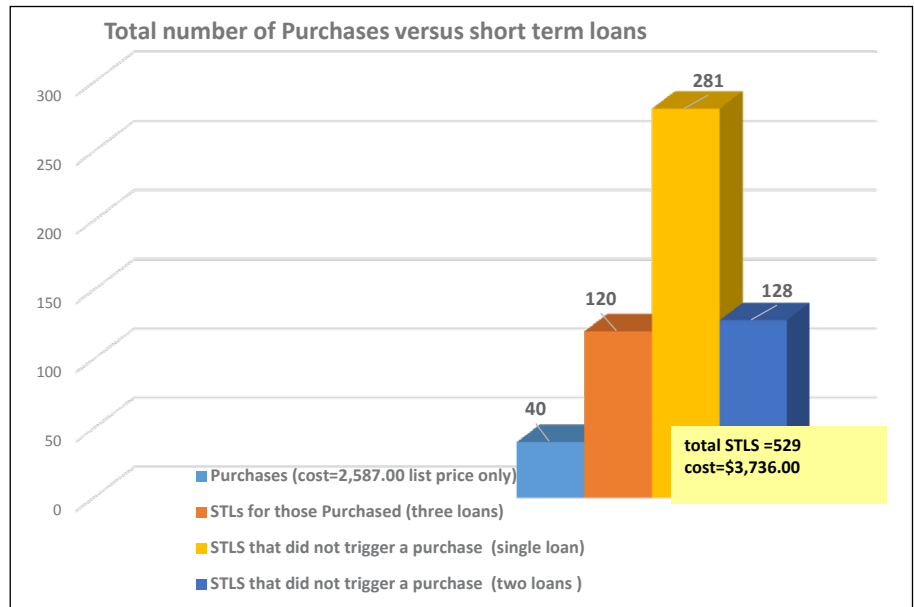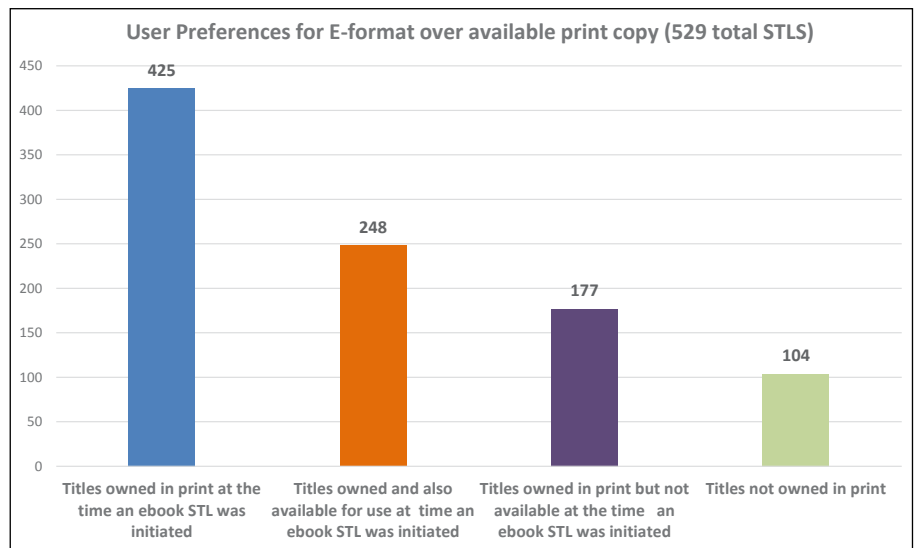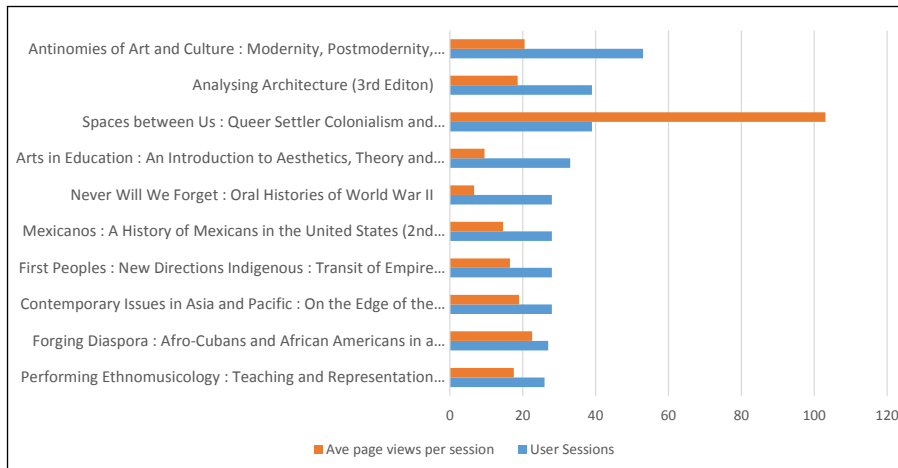
Figure 6. Top Ten Books by User Session with Average Pages Viewed per Session

these studies is a long time when measuring how comfortable users are when using e-books. Fischer et al. also considered print circulation of available e-books during their DDA study.[15] Although the data are not available by discipline, they found that "it is very apparent that the circulation of the print copy drops dramatically once the electronic version is available" and "the data show a notable preference for the electronic books" (compared to available print books).[16]

This research suggests that a shift may be happening with humanities e-books. Further research and tracking of e-book use is needed to confirm any humanities' scholarship move from print toward an online future. An analysis of the depth and breadth of e-book use is provided later to help frame that discussion. The study's survey results (outlined later in this paper) show more tipping-point evidence concerning the choices humanities scholars weigh when choosing a book format.

Figure 6 shows the top ten e-books used during the study, based on user sessions. The top title was accessed more than fifty times. Ebrary defines a user session as the number of times a title is opened and the user performs at least one copy, print, page view (page turn), or download. The study was timed to include a semester peak when papers are researched and written, and this timing is reflected in the use data. The top-ten list is also fairly diverse, with three of the six disciplines represented: art, history, and music. Additionally, none of the top ten shown here are reference e-books (handbooks, encyclopedias, etc.). Straiger notes that high use is often correlated to a "used not read" trend that is more meaningful when measuring the use of reference e-books rather than e-monographs.[17] In this study, reference book records were specifically removed when easily identified as noted in the method section. The "used not read" concept warranted more analysis of the ebrary use logs to see what was used in a session or

loan, and the results are reported later in this paper. Figure 6 also shows the total page views with those user sessions. This illustrates that high user sessions did not always mean high page views as is true with the first title (*Antinomies of Art and Culture*). That title had the highest user sessions but only moderate page views.

It is helpful to study all the transactions to see how user sessions contributed to totals across the entire group of use metrics and the scope of use across the user sessions. As noted in the method section, a rubric was established to assign categories of use on the basis of the type and volume of transactions made. For this study, page-view volume and a combination of other uses were the criteria used to define four different types of e-book use/reading. It would have been very useful to know how much time a user spent on a page when multiple pages were accessed during a session as it is not possible to determine what was skimmed over versus read completely. But that is not an option for e-book use in general. Therefore the rubric looked at a combination of use that would demonstrate a level of user interest. Chapter downloads were not counted in the rubric as 69 percent of the titles accessed with STLS did not have any. This is because of the DRM set by publishers but also because users did not always opt to set up an account to use this feature, possibly because they found it cumbersome. In establishing the rubric, an average page count per book was determined from a sampling of the titles accessed by humanities scholars as STLs. This average was 309 pages and is slightly higher than the 258 page average as reported by *Publishers Weekly* on their blog (where 64,500 words is the average word count per book and the average words per page is 250).[18]

Use categories were defined as the following:

- Nonuse (aka "quick dip"): defined as nine page views or less per session or at a 309 page average, less than 3 percent of a book's content. This could include up to nine pages printed or cut and pasted, averaged over the sessions. This use was seen as sufficient to check the index or table of contents to see that deeper browsing was not desired. "Non-use" is dipping in to a book and seeing just enough to then "close" the text.
- Low use: 10–25 page views per session (a maximum of 8 percent of book content at the 309 page average) and could include up to nine pages printed or cut and pasted averaged over the sessions.

- Moderate use: 26–75 page views per session (a maximum of 24 percent of book content using the 309 page average) and up to nine pages printed or cut and pasted per session.
- High use: 75 and higher page views per session and any number of printed pages or cut/paste activity over nine per session (over 25 percent of the book content using the 309 page average).

Figure 7 shows the breakdown by level of e-book use. Despite the criteria and rubric established, use is hard to completely assess. Page views may also have meant flipping back and forth where use is not linear but may be sustained. This analysis revealed that most of the titles saw low (47 percent) to moderate (39 percent) use: combined low and moderate use totals 86 percent of the 385 unique titles. High use was 8 percent and 6 percent were used minimally and were categorized as nonuse. For a significant percentage of the titles (moderate and high use totaled 47 percent), users may have been reading full chapters per book if one assumes page views are generally consecutive. By carefully analyzing the level of e-book use in this study, we identified deep reading, consecutive reading, sampling of text to retrieve data or text, or sampling to determine no further use as needed. All represent a variety of what may be expected when examining how users use e-books.

Table 1 (referred to earlier) shows the most heavily accessed e-books that generated either two STLs (not purchased) or three STLs (generated a purchase). This figure demonstrates that a large number of uses can take place without triggering a purchase. For example, there were more pages viewed for the top STL that did not result in a purchase (4,222 pages viewed) than the top pages viewed (4,021) for an e-book that *did* result in an automatic purchase. Purchases were determined by user-initiated loans, not page views. Use of the top titles was often high, even without generating a purchase. These data show how libraries can use the STL option to provide access to e-books that may be heavily used without initiating a full purchase, which is a very cost-effective option. As noted earlier, this was the first use made locally of STLs and was for research purposes, not as part of an ongoing purchase program. The UIUC library reconsidered high use at the end of the study and purchased numerous e-books that generated high use but did not trigger a purchase.

DDA Conclusion

Many conclusions can be drawn from the DDA study concerning how humanists use e-books. Perhaps most important is the simple fact that they found and used many of the e-books made available to them, and often chose the e-format over print. Humanists found and used 385 unique
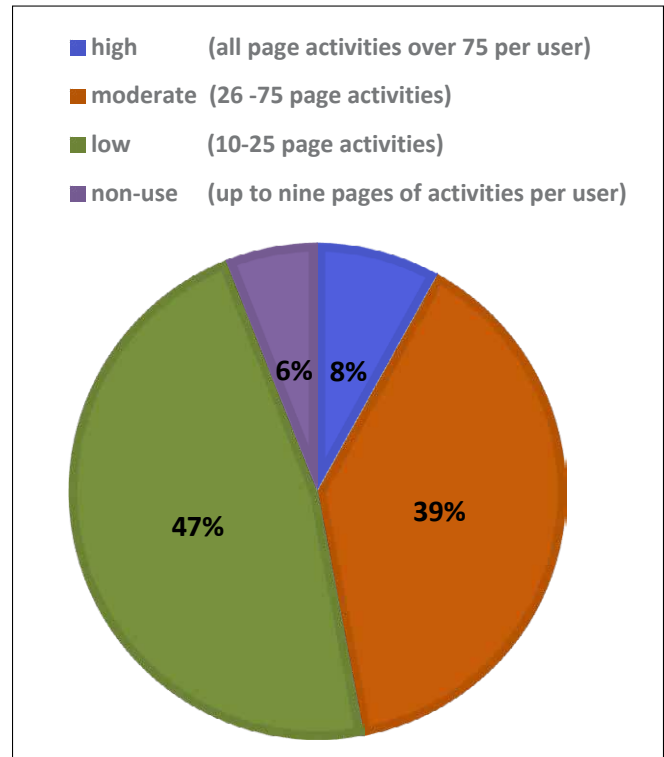

	high	(all page activities over 75 per user)
	moderate	(26 -75 page activities)
	low	(10-25 page activities)
	non-use	(up to nine pages of activities per user)

Figure 7. Categories of User for the Humanities STLS

e-book titles in six months, and when print copies of some of these titles were available for check out (and office delivery), the majority of scholars chose the e-book. On the basis of the STL model, which allows for sampling via page views before a purchase is triggered, humanists viewed 43,215 e-book pages during the six month trial. In addition, this study confirms the different types of reading that scholars do, based on page view data, matching the styles cited by McKay, "flipping through books, moving backward and forward, and using document structure for navigation."[19] The most important take-away from this focused study is that humanists will and do, indeed, use e-books. This simple conclusion is further supported by phase two of the study, the survey questionnaire, which was designed to determine how these scholars choose a monograph format (electronic or print) and their predictions for when a fuller migration to e-formats might take place in the humanities.

Method: Online Survey

The method for the survey portion of this study is outlined by these main points:

- Design and create the survey using Survey Monkey (www.surveymonkey.com/).

- Create question types and responses for evaluation. The survey used several methods: a Likert scale for a set range of responses for most questions, and several open ended questions.
- Gain Institutional Review Board (IRB) approval for a human subject survey as required.
- Invite survey participants through departmental email and assure anonymity.
- Establish incentives to encourage participants to complete the survey.
- Include a section that linked participants to e-books in their discipline and that led them to open that online text (users identified their subject discipline and on the basis of their response were asked to select an e-book to use).
- Qualitative responses to open ended questions were subsequently coded to allow for analysis.

IRB approval to conduct a survey of humanists' e-book use was granted in March 2013. On April 2, 2013, an email message was sent to faculty and graduate students in the six humanities disciplines, inviting them to complete the survey, matching the subject areas to the ebrary DDA study: art, architecture, classics, history, music, and religion/theology. Survey participants received an email from the study authors that was forwarded to them through their departmental offices. In some cases, multiple attempts were made to find the right department personnel to forward the survey request. All departments in the study were contacted at least once about the survey. The incentive for the survey were gift cards to the Illini Union Bookstore that had to be picked up, and participants were required to sign for them using a unique identifier not linked to a name to preserve user anonymity.

The survey included approximately thirty questions about e-book and print preferences and use, and also provided users with links to three e-books in their discipline. Skip logic directed users to a list of discipline-specific e-books following the demographic information each participant provided. Participants selected one to "use," were directed to the ebrary platform to open that text, and were subsequently asked questions about their experience.

To gain comparable data to other e-book studies, many questions from ebrary's 2011 e-book survey of students were used in the UIUC survey.[20] One question was borrowed from the California Digital Library survey of Springer e-book users published in 2012.[21] All other questions were based on information the authors sought to understand better about why and how humanists selected resources to use in their research.

The survey closed May 1, 2013, and 162 people had completed the survey. Although it was not possible to determine precisely how many people received the email inviting them to take the survey, the potential base of respondents was estimated at 1,134 and was derived from the number of faculty and graduate students in the departments targeted through departmental email. Based on that total, the survey response rate can be estimated at 14.4 percent. Survey Monkey was used for both the survey and analysis of the survey results. A complete copy of the survey is available from the University of Illinois Urbana Champaign institutional repository (IDEALS): https://www.ideals.illinois.edu and under the title *UIUC Library Ebooks Study*.

Results/Online Survey

Basic demographic information was collected, and results show that 73 percent of participants were graduate students, 19 percent were faculty and 8 percent were "other" (which self-identified as visiting lecturer, adjunct instructor, and other variations of faculty status). Gender was identified at 52 percent female and 48 percent male. More than 80 percent of respondents reported to be less than 40 years of age. Only 4 percent of respondents were over 60 years of age. Most participants (52.5 percent) were reported to be between 26 and 40. No one under 18 was included in the survey. When asked about their experience using e-books, 84 percent stated that they had previously used e-books, and 16 percent had not used e-books. Of the 16 percent who had not previously used e-books, all were under 60 years of age while the majority (29 percent) were aged 41–60. Surprisingly, the next highest reported age group of users who had not used e-books was age 18–25 (17 percent).

The survey sought to determine why or when a researcher or student in a humanities discipline would choose to use an e-book or print book. Figure 8 shows the responses to the question, "Given the option between e-books (e) and print books, which would you choose?" The responses to this question show a preference for print, but also indicate that the e format could be acceptable since 60.9 percent of respondents chose the option " . . . sometimes e" rather than "always print" option (18.6 percent). The DDA data however showed a clear preference for e when it came to actual use, since users chose the e-book copy in lieu of requesting the print vesion (see figure 5). Two questions were posed to determine the current status (figure 8) and the projected future (figure 9) of e-book use by humanists. While figure 8 points to a current preference for print, figure 9 shows that if projecting into the next five years, 46.2 percent predict that they will be using print books for over 50 percent of their book-format research. There is evidence here that researchers predict some momentum in more e-book availability and use.

When asked about the value of e-books, respondents selected the more positive comments in higher percentages (at 56.6, 49.3 and 78.9 percent respectively), while lower percentages of respondents agreed with the negative options

(38.8 and 20.4 percent). Figure 10 shows that the availability of e-books was the most agreed-upon value. Researchers appreciate and acknowledge that e-books' availability/accessibility is valuable to them. The option suggesting that libraries build "extensive e-book collections in the humanities" was selected by 49.3 percent of respondents, again reflecting the near 50/50 split between this group of respondents when asked what their research format choice would be in 2018 (see figure 9). There appears to be, now, with this particular population of students and scholars, a nearly evenly divided view in the e-book/print debate. However, issues surrounding note-taking and e-readers are less critical in these results, perhaps due to inexperience with using e-books or the acceptance of current standards. The tipping point question was bluntly asked, with responses shown in figure 11. If the needed book is not available in print, 68 percent of respondents will locate and use the e-book. This willingness to use the e-book format is encouraging to humanities selectors who may only hear from users who are not as willing to try the e-format. It appears that at least among this set of users, immediate availability is a recognized benefit; less than a third (28 percent) of respondents were willing to wait for a print copy.

Figure 12 clearly establishes that UIUC's humanities scholars want to use e-books, and are hampered by the lack of e-books available to them. This lack could be because they are not seeking them, that the library has not purchased e-books in their specific area of interest, or is due to publishers who have not provided current e-book content to this audience. Regardless, figure 12 shows that humanists indicate their agreement on the potential issues that prevent them from using e-books more widely: there are not enough available to them, current titles are lacking, and restrictions on image content, printing and copying make use difficult. If it was not specifically indicated that the results in figure 12 are from humanists, they could
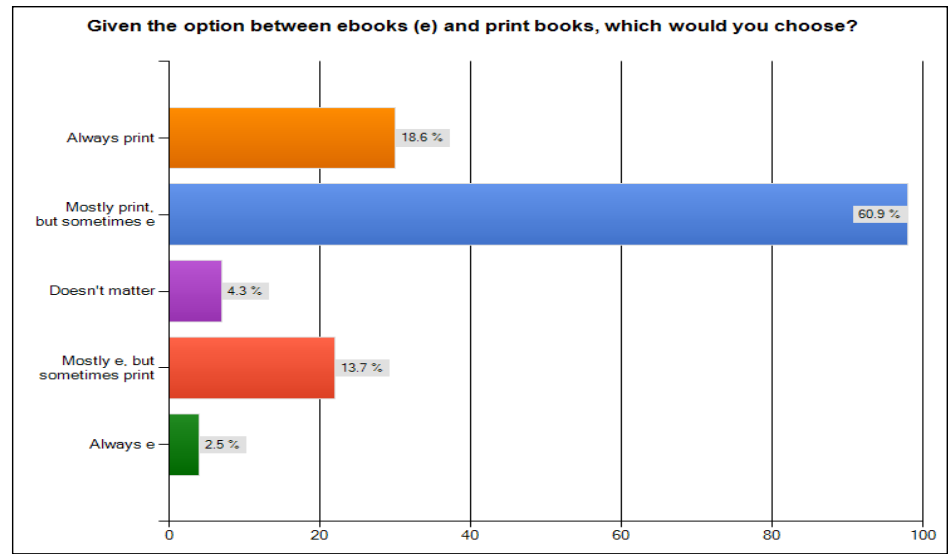

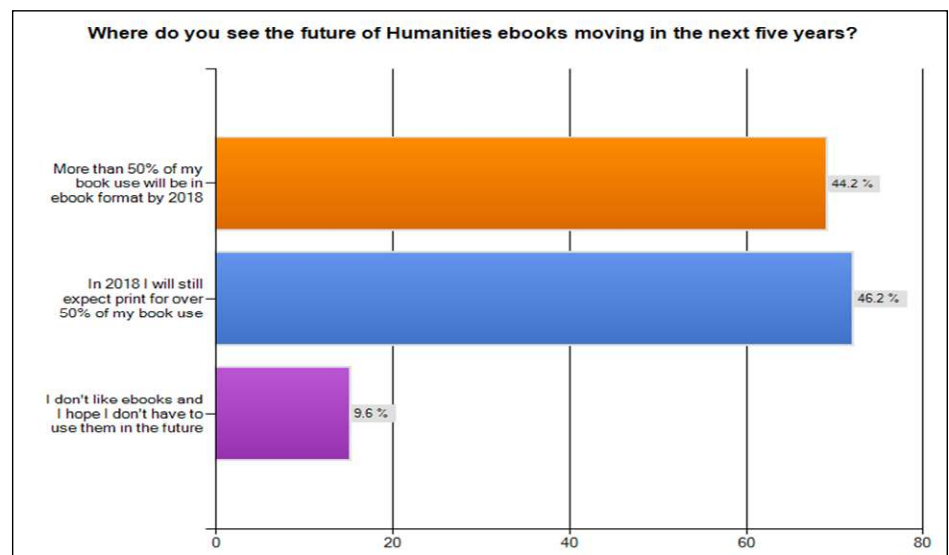**Figure 8.** Preference for E-book or Print

Figure 9. Survey Responses Regarding Future of Humanities E-books

be construed as being from any research discipline. They are looking for the same access that any scholar would want from e-books: access, availability, and the ability to view images and print/copy/download content.

Open Ended Questions

Two simple, open-ended questions were asked at the end of the survey. The participants had already read and used an e-book and were familiar with the ebrary platform. The two questions were: "After participating in this study, are you more interested in using e-books?" and "Is there anything

else you want to tell us about your e-book experience?" Answers to these questions were coded and grouped by type of response/subject. Of the 162 respondents, 143 provided an open-ended answer to the question, "Are you more interested in e-books?" This question was coded for "yes," "no," and "maybe" or "same (as before the study). Of the 143 responses, 43 percent responded "yes, "indicating they had more interest in e-books, 9 percent replied "maybe," 35 percent answered "no," and 13 percent indicated the same level of interest as before the survey. The combined total of yes and maybe responses totaled 52 percent, showing that the majority of responses were positive. The comments for "same" provided additional details about the range of individual issues:

> "Not really; the system seems needlessly complicated."
> "Perhaps, but for true usability I would need to buy a portable reading device."
> "I still prefer the printed page,"
> "Possibly. Though I would need more evidence of the relevance and applicability to my work."

Issues of complicated access, usability, and relevance/applicability also came through clearly in the second question, where respondents were asked to add anything about their e-book experience. Responses to this question were also coded and grouped. Five major themes were reported to cover the issues: content, usability, functionality, ergonomics, and format preferences, along with a small miscellaneous category. Content described users' comments on the use of the actual content of the book. Usability described comments on the tools for using the content. Functionality focused on user comments about expectations in using the content. Ergonomics issues described any physical aspect of using this content online,
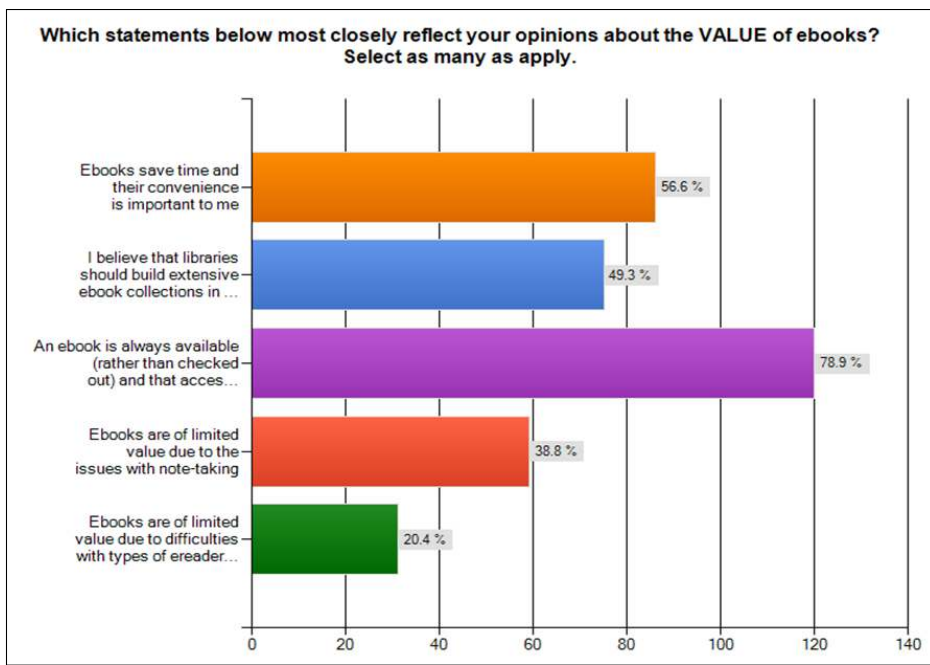

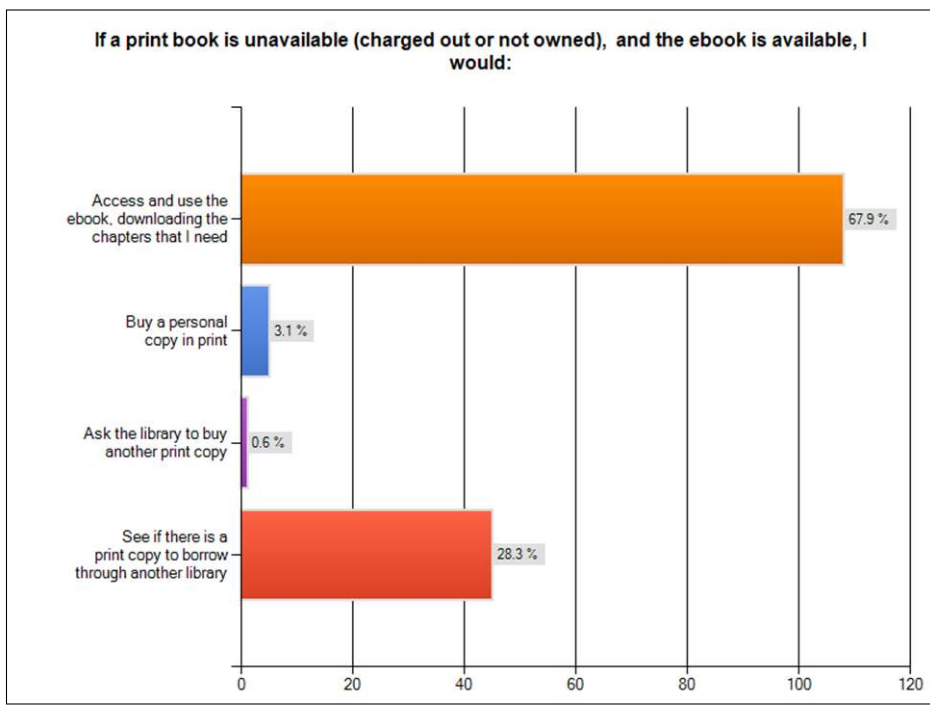**Figure 10.** Survey Responses Regarding the Value of E-books

Figure 11. Survey Responses Regarding Availablity of Print and E-books

and because many took the time to clearly note it, format preferences were tabulated. Figure 13 shows the number of responses per broad theme.

By more than two to one, humanities scholars who chose to comment were concerned about usability and functionality

issues related to e-book use. Usability comments varied from concerns about too many interfaces to navigate, limited viewing capabilities on readers, the lack of non-linear reading capabilities, and the lack of a consistent and compatible format to download, i.e. PDF. Functionality issues were mainly concerned with note-taking and device/platform options that were inconsistent or seemingly nonexistent and included comments from users who purchased tablets and were positive about the difference the device made. Nearly 60 percent of users focused on functionality and usability issues. Seventeen percent of the respondents stated that they prefer print over online, but the majority reported on the benefits of e-books, with the need to use print for deep reading. Ergonomic issues were related to vision and eye strain issues; some respondents reported dissatisfaction with being tied to a computer or reader.

Figure 12. Survey Responses Regarding How to Make E-book Usage More Suitable to Humanities Researchers

Conclusion

Specific research questions asked by this study included:

- What characteristics or circumstances drive the choice between using an e-book versus a print book?
- How important is instant accessibility and availability when weighed against the more traditional need to take notes or lay open the pages of a print book?
- Under what circumstances are humanists more likely to seek a print version of a book than access the e-book version?
- What type of reading do humanists do when using an e-book (measured by creating a rubric to determine the breadth and depth of use per title)?
- What qualities or capabilities do humanists expect in an e-book?
- How widespread do humanists see e-book adoption in their discipline in five years?

The data from the DDA study showed a preference to use the e-content, even when the print copy was available, at least initially. This preference needs more investigation to determine whether users enjoy the online content to help them to decide what titles they want to read more deeply in print. The DDA use data indicate that there are different
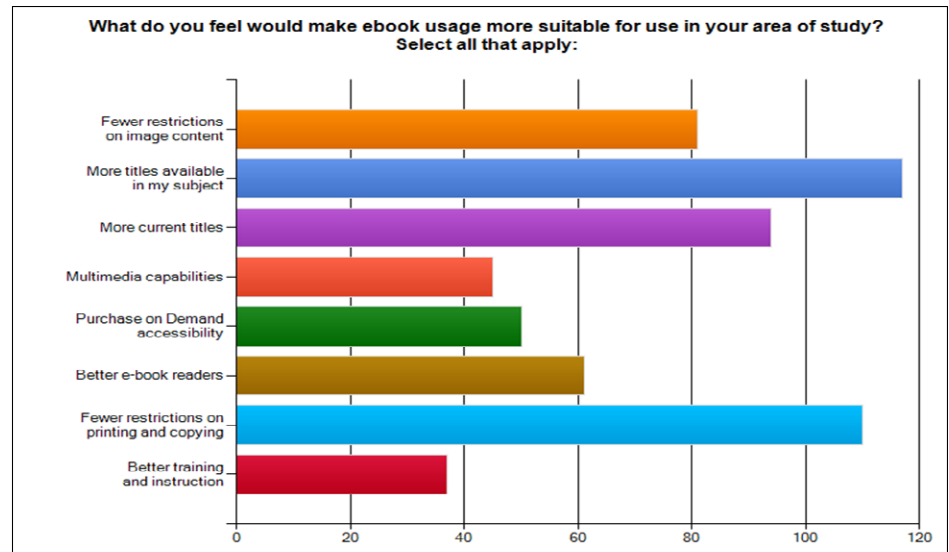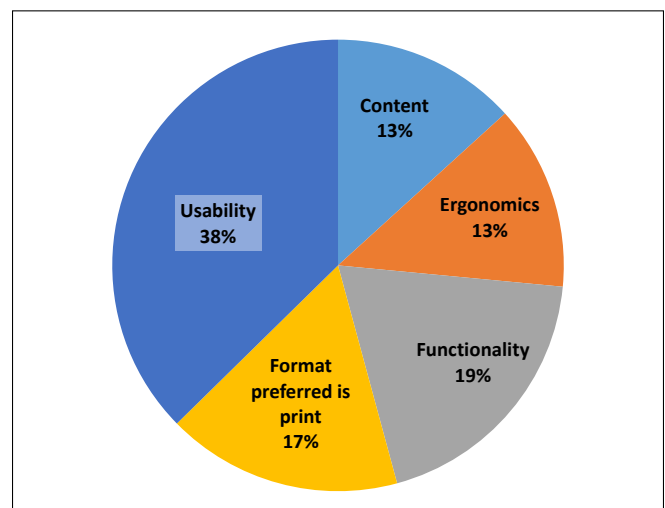

Figure 13. Survey Responses Regarding E-book Experience

styles of e-book reading, but data still showed significant use of portions of the online texts, indicating there were some high levels of online reading. User surveys revealed the clear recognition of the value and convenience of e-books and also illustrated the frustration still experienced when electronic cannot emulate print. This study attempted to establish a baseline of humanities scholars' use of, and present and future interest in, e-books, with the complete understanding that humanities disciplines have not to date, adopted e-books at the same level of those in the sciences and social sciences. It is clear that humanities scholars (and humanities collection development librarians) have

been weighing the convenience and availability of e-books against the familiar print format. Survey respondents want to see more e-book offerings and better tools or devices to best emulate print reading. Options to offer both formats will likely continue with an increased emphasis on access to e-books through more formal DDA programs for humanities monographs.

The two methods employed in this study, a DDA program on the ebrary platform and a follow up survey, have helped to make some sense of the directions that selectors in these disciplines might choose. The data from the DDA study, with 43,215 e-book page views, 1,710 pages printed, and 605 e-book chapter downloads in just six months, points to a willingness by humanists to use e-books. Further evidence comes from our review of the print availability of e-books used: In 248 instances out of 425 matches of owned and available titles (58 percent), a user in the humanities elected to use an e-book when the print book was available and when that book could have been delivered to the user at their campus office (see figure 5). Furthermore, the cost of the DDA study, which capitalized on ebrary's option for STLs, showed that for a relatively low cost ($3,736.00 for 489 STLs for an average of $7.64 per loan), users found relevant, easily accessible materials in their humanities discipline. It is true that these data reflect only the UIUC student and faculty usage, but the cost of experimenting to determine any users' usage is relatively low.

The rubric developed to determine levels of e-book use during this study identified four levels of use: non, low, moderate, and high. The vast majority of e-books used during this study (86 percent) were categorized as low or moderate use. This does not mean these are not "valued uses," and they may not represent the type of "use rather than read" category identified by Staiger.[22] These uses can represent from 10 to 75 pages viewed per session, and clearly show more than quick dip use. "Using" an e-book still shows considerable interest in the content and the value of the material. The use of an e-book should also include "discovery." The ease of searching within an e-book is highly valued and offers the potential for much more exploration of the content that may provide for more focused subsequent reading.

The survey of 162 faculty and student respondents asked specific tipping-point questions to determine how familiar they were with e-formats and when they would choose an e-book over print. Data from the survey show a split in the acceptance of electronic versus print. As noted, there was a nearly 50/50 split between this group of respondents when asked about their research format prediction for 2018. However, there is a willingness to read in the e-format as shown in figure 12 of the survey. Nearly 70 percent of respondents would use an e-book if the print copy was unavailable, and 28 percent would still seek the print format with most of

those opting to borrow it from a library, and a few would buy their own copy.

While it is clear that humanities scholars cannot yet support a total transition to e-books, it is also clear that it is a complicated question because of issues that persist in how this content is made available. DRM and copyright restrictions often limit the use of art work or other graphics in these monographs, note taking continues to be a challenge in e-formats, platforms are may be difficult to navigate, and many simply still love print books. But this study does show that when e-collections are available in humanities disciplines, they will be used. DDA allows selectors to profile specific subjects, publishers, and dates, and use is the ultimate criterion within the preordained parameters. Furthermore, survey respondents were more positive than negative when asked about the value of e-books, with accessibility, availability and time-savings most valued.

While progress has been made in moving humanists to more widespread acceptance of the e-book format, there are still reasons for them to be resistant, and their hesitancy is understandable. Librarians must continue to work with publishers and vendors to affect real change to the barriers that limit e-adoption in any discipline, but particularly the humanities. It is also important to remember that we are in the very early stages of e-book evolution. Tablets and other devices are changing rapidly, and as more research is conducted on reading styles and needs, devices will change and options for note-taking, skipping around within texts, and even the "look and feel" of text on a screen will evolve.

Next steps in this research include the exact replication of this study for nine social science disciplines at UIUC, substituting social science e-book titles for the humanities titles. The comparison of the survey results and the DDA purchases by these groups of scholars will help to better frame the collection decisions for selectors in these disciplines.

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