

Handheld E-Book Readers and Scholarship

Report and Reader Survey

ACLS Humanities E-Book White Paper No. 3

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ACLS Humanities E-Book



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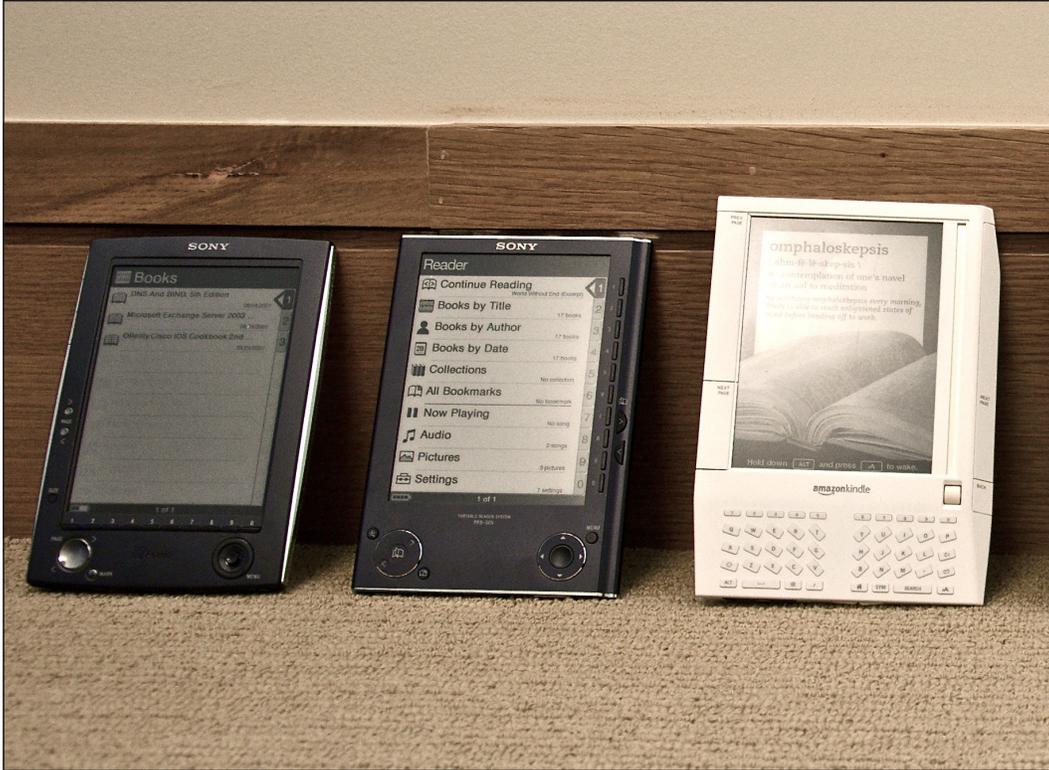
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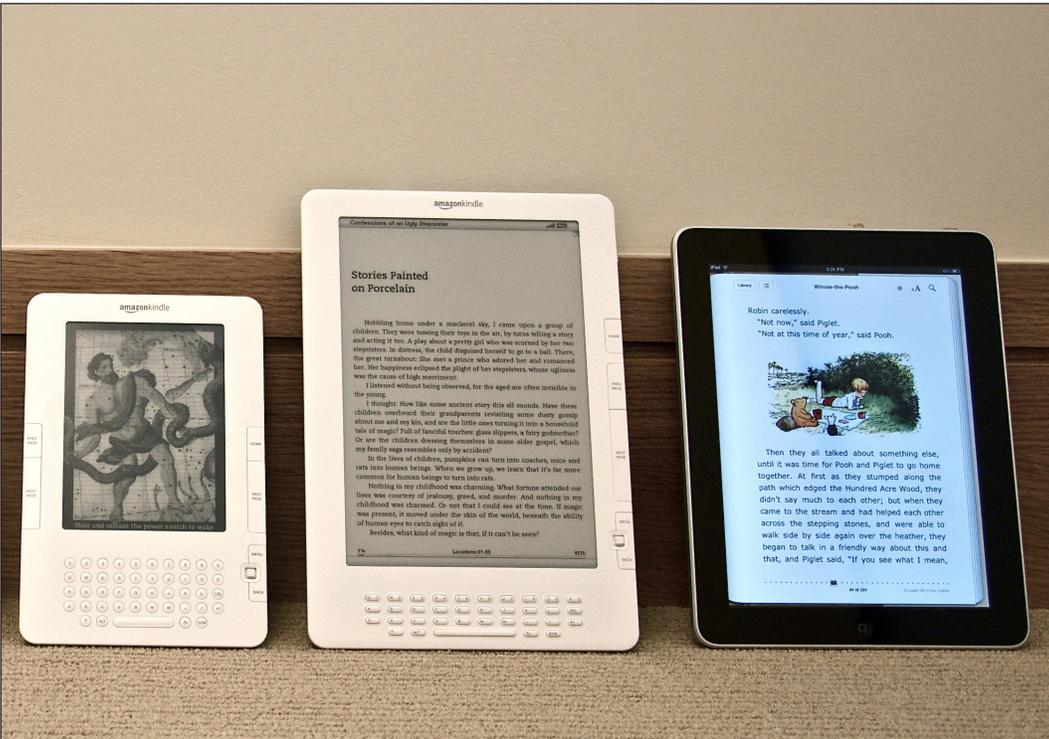
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E-book readers (left to right): PRS-500 (Sony, 2006), PRS-505 (Sony, 2007), Kindle 1 (Amazon, 2007).
 Below: Kindle 2 (Amazon, 2009), Kindle DX (Amazon, 2009), iPad (Apple, 2010)
 Source: John Blyberg, [Wikimedia Commons](#).



EXECUTIVE SUMMARY

This report describes a conversion experiment and subsequent reader survey conducted by [ACLS Humanities E-Book](#) (HEB) in late 2009 and early 2010 to assess the viability of using scholarly monographs with handheld e-readers. Scholarly content generally involves extensive networking and cross-referencing between individual works through various channels, including bibliographical citation and subsequent analysis and discussion. Through past experience with its online collection, HEB had already determined that a web-based platform lends itself well to presenting this type of material, but was interested in exploring which key elements would need to be replicated in the handheld edition in order to maintain the same level of functionality, as well as what specific factors from either print or digital publishing would have to be taken into account. As sample content, HEB selected six titles from its own online collection, three in a page-image format with existing OCR-derived text and three encoded as XML files, and had these converted by an outside vendor with minimal editorial intervention into both MOBI (prc) and ePub files.

During its in-house assessment phase, HEB experienced some navigational difficulty with both formats and found that annotation and other interaction with the text was difficult using a number of popular e-readers. (Specifically, the sample titles were tested by HEB on the Sony Reader PRS-700, Amazon's Kindle 2 and the Stanza application on the Apple iPhone.) HEB also found the XML titles to be of limited functionality in the MOBI format and therefore opted not to further poll readers on this subset.

About 88% of our 142 survey participants expressed overall satisfaction with the appearance and functionality of the three remaining handheld samples, although roughly half reported some level of frustration with the search function using either format, and only 26% felt they would have an easy time citing and referencing these editions. Satisfaction with other interactive features, such as adding notes, bookmarking and highlighting, was noticeably higher; however, the "n/a" option was also selected frequently for these categories, and it appears that a large number of participants were unable to perform the tasks in question due to confusing or insufficient instructions from the device manufacturer. As formats evolve, future satisfaction with these features may increase. Irrespective of specific limitations, 75% of participants were interested in potentially downloading additional similar titles for free or if priced below \$10.

HEB's production costs, starting from preexisting OCR-derived text and XML files, amounted to about \$204 per title for creating both editions, ePub and MOBI. As an example for other publishers, were we to process 300 additional titles from our online collection, this would rise to about \$232 (for a bulk conversion of page-image titles only, which are somewhat more expensive to convert than XML). Therefore, if titles were sold at \$10, production costs would be offset at twenty-four downloads. This data is included to provide publishers with a basic idea of conversion costs

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from one digital format to another; however, it does not take into account other ordinary overhead charges or management fees and discounts for third-party retailers and distributors, which would need to be factored in separately.

HEB's initial findings in this study indicate that titles formatted for existing handheld devices are not yet adequate for scholarly use in terms of replicating either the benefits of online collections — cross-searchability, archiving, multifarious interactive components — nor certain aspects of print editions that users reported missing, such as being able to mark up and rapidly skim text. A turnaround is underway once a common and more robust format optimized for handheld readers is determined and devices themselves evolve, adding improved display options and better and more intuitive web-access, searching and other interactive use of content.

INTRODUCTION: ONLINE VERSUS HANDHELD

E-book readers and e-reader applications for smart phones and PDAs have been steadily gaining in popularity over the last few years, as the pervasive coverage in both technology-oriented publications and in the mainstream press confirms, and it's becoming increasingly difficult to keep up with the release of new devices and improvements on existing platforms. At a somewhat slower pace than in commercial markets, handheld reading is also gaining a foothold in academia. During the last few years, [ACLS Humanities E-Book](#) (HEB) has received an increasing number of inquiries from its subscribers and other interested parties wondering whether we were planning to offer titles from our collection for download in formats optimized for this new wave of handheld e-book readers.

Currently, HEB subscribers are able to access our nearly 2,800 digital titles¹ — spanning dozens of disciplines, as well as multiple discrete series — online via standard web browsers, in full-text editions and fully cross-searchable. Titles may be viewed in multiple iterations, including the default scanned page-image view at various magnifications, a PDF (portable document format) view that allows for printing of three consecutive pages and an unformatted OCR (optical character recognition)-derived text view. The books are hosted at the University of Michigan Library, whose Scholarly Publishing Office disseminates and provides maintenance for the collection, with limited options for downloading and printing and no capability for transferring files off the library's servers to personal computers or portable readers. Keeping in mind rights restrictions and our subscription-based access model, there seemed to be no immediate practical route to switching to downloadable books, and we conveyed as much to our subscribers whenever queried.

However, upon attempting to delve further into the subject of downloadable monographs, HEB discovered that little had been rigorously studied or published to date regarding the suitability of handheld e-reader devices for disseminating content intended

1. For more information on title selection and to download a spreadsheet listing all current titles, please visit: <http://www.humanitiesebook.org/titlelist.html>.

specifically for scholarly research.² In contrast to trade publishing, where individual titles (or series) are often more or less self-contained, scholarly content generally involves extensive networking enabling individual works to “speak” to one another, be it through bibliographical citation and reference or through subsequent analysis and discussion. It therefore makes sense that online aggregation lends itself well to presenting this type of material in digital form, as we already knew from HEB’s seven years of online publishing experience since launching the collection in 2002. But which key features of this successful model would need to be replicated in the handheld environment in order to produce useful results for the scholarly community, and what specific factors from either print or digital publishing would have to be taken into account?

These questions, in conjunction with HEB’s commitment to periodically reevaluating the utility and longevity of its collection by exploring different e-book formats, prompted us in fall 2009 to select a small sample of titles for conversion in order to conduct a limited, controlled study to assess this content on then-current handheld devices. Since the HEB collection is widely known and subscribed to and includes high-quality titles recommended and reviewed by ACLS’s constituent learned societies, it offered a consistent and easily analyzed body of works that would allow for efficient comparison of publication platforms, reader expectations and requirements between the online and handheld environments. We therefore considered our ability to make a small but significant contribution to this emerging area to be well worth the time and effort expended in this study, which was conceived as a two-part process: an in-house evaluation followed by an external-reader survey.³

CONVERTING BOOKS FOR HANDHELD DEVICES

TITLE AND FORMAT SELECTION

HEB opted to convert three page-image titles and three XML titles from our online collection for use in this experiment. The vast majority of HEB’s online titles belong in the former category; meaning, they are presented online as scanned page images of

2. Several campus-based studies of textbooks for use with handheld readers have been published — several examples of these are presented in the [conclusion](#) below — but we were less interested in the largely subjective reactions to the handheld reading experience gathered in these than in a broader assessment of which elements of digital scholarly communication could be efficiently and cost-effectively presented using then-available devices and software. *The Chronicle of Higher Education* has since conducted its own survey of handheld readers that covers some of the same ground — see note 19 below.

3. For further reading on the growing importance of electronic resources in general over print books to libraries, see the following recent studies: *CIBER, The Economic Downturn and Libraries* (University College London, December 2009), available online at <http://www.ucl.ac.uk/infostudies/research/ciber/charleston-survey.pdf>; Michael Newman, *The 2009 Librarian eBook Survey* (HighWire Press, 2010), <http://highwire.stanford.edu/PR/HighWireEBookSurvey2010.pdf>; and Roger C. Schonfeld and Ross Housewright, *Faculty Survey 2009: Key Strategic Insights for Libraries, Publishers, and Societies* (ITHAKA S+R, 2010), <http://www.ithaka.org/ithaka-s-r/research/faculty-surveys-2000-2009/Faculty%20Study%202009.pdf>. Note that these reports do not necessarily differentiate among different e-book formats.

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the print edition, with underlying OCR-derived text for searching. (These associated, minimally formatted text files are also provided to readers as a separate viewing option, to enable display of highlighted search terms as well as for copying and pasting.) At the time, there were also seventy-one text-encoded XML (extensible markup language) titles in the collection, which are dynamically transformed into HTML for online viewing. These titles can include links and other interactive features whose translation to handheld devices we were interested in assessing during the course of our experiment. From among the page-image titles, we chose relatively popular books unencumbered by rights issues; from among the XML books, we chose titles with some interactive components that would not overwhelm the basic textual content, since we were unsure how functional the former would ultimately be in the handheld edition.⁴

While pondering which target format was best suited to this experiment, we attempted to take into account which types of files were most versatile and universally accessible on then-current e-book readers. PDF is supported by nearly every popular device on the market and thus fit the bill of accessibility — not to mention that, for many publishers, this would probably represent the simplest conversion solution;⁵ yet this option seemed limited in terms of interactive content and formatting due to its lack of reflowable text and was therefore not exactly in keeping with the nature of our inquiry. EPub is an open standard developed by the International Digital Publishing Forum (IDPF), frequently cited as the most flexible and one of the most extensively supported digital formats currently in use. It is predicted to be adopted even more widely in the future, and therefore seemed like an optimal choice. We also took into consideration the status of Amazon's Kindle as the most prominent dedicated handheld reader in use at the time, followed by the Sony Reader as a distant second.⁶ EPub is compatible with the Sony device but not with the Kindle; however, in addition to its proprietary AZW format, the Kindle can also display unprotected Mobipocket files,⁷ which are closely

4. The six titles chosen were Norman Daniel's [The Arabs and Mediaeval Europe](#) (London: Longman, 1975), also part of HEB's print-on-demand program; Lewis Hanke's [The Spanish Struggle for Justice in the Conquest of America](#) (Philadelphia: University of Pennsylvania Press, 1949); Karl Polanyi's [The Great Transformation](#) (Boston: Beacon Press, 1957, c1944); Thérèse-Adèle Husson, [Reflections](#) (New York: New York University Press, 2003, c2001), which included internal cross-linking at the paragraph level between the historical French text and English translation; Fred Nadis, [Wonder Shows](#) (New Brunswick, NJ: Rutgers University Press, 2006, c2005), which included video files; and Barbara Newman, [Voice of the Living Light](#) (Berkeley: University of California Press, 2008, c1998), to test formatting of diverse encoded text elements.

5. For most print publishers, it would likely be easy to obtain PDF output during the design stage, in which case minimal further action would need to be taken to prepare the title for digital conversion. HEB's situation is complicated by the fact that, while our page-image titles can all be viewed online in PDF form, these are image files only rather than web-optimized files with accessible text.

6. According to a webinar presented by data-conversion service provider Aptara on November 18, 2009, "EBook Readers & Standards... Where to Next?", as of October 2009, sales of Kindle and Sony Reader devices presented 60% and 35% of year-to-date sales of dedicated readers in the U.S., respectively, with only 5% of other devices being purchased. See PDF slideshow summary, available online at: http://event.on24.com/event/17/21/63/rt/1/documents/slidepdf/aptara_ereader_webcast.pdf.

7. Also known as MOBI, with file extensions .mobi or .prc.

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related to the former. After soliciting additional input on formats from our vendor, we decided to test out both ePub and MOBI. In addition to trying out our sample books on the two devices mentioned above, this would also allow us to test them on the Apple iPhone (and eventually on the iPad, not yet released when our survey was launched), with applications available for viewing both types of formats.

CONVERSION PROCESS

HEB established its XML-title specifications (See <http://www.humanitiesebook.org/xml/doc/acls-hebook-doc.html>.) over several years of praxis and has always reviewed and occasionally corrected or augmented files for text-encoded titles in its online collection. For this set of handheld editions and at this stage of the learning process, it soon became clear that we would not be able to closely examine conversion results on a technical backend level and instead would mostly be reviewing output, ceding some control over the conversion process and relying in large part on our vendor. However, this suited HEB's interest in keeping editorial intervention on the part of our in-house staff to a minimum in order to explore the possibility of performing large-scale conversions of additional titles, as we had attempted to do with a previous project involving the retroactive conversion of backlist page-image titles to XML.⁸

In order to provide our vendor with source files for the conversion of the three page-image titles, HEB transmitted the previously generated OCR-derived text files already in use online. The OCR process is imperfect, and therefore such files typically have an error margin of 0.01%. As a corrective option, HEB asked the vendor to perform an automated spell-check on the affected titles, though we were told this would not eliminate all possible types of errors. (We knew from past experience with the same XML backlist conversion project referenced above that performing individual proofing on these books would be prohibitively costly.) For the three XML titles, we submitted the XML files tagged in accordance with HEB's in-house specs.

Since images already existed as separate related files for our XML titles, we submitted these as they were, to be adjusted as needed by the vendor for inclusion as figures in the ePub and MOBI editions. For the page-image titles, we provided the vendor with a complete list of illustrations so that these could be located in the online edition, cropped out of the page scan and subsequently processed.⁹

8. See *ACLS Humanities E-Book XML Conversion Experiment: Report on Workflow, Costs, and User Preferences* (New York: The American Council of Learned Societies, 2009), p. 7, "Description of Experiment." (Available online at <http://www.humanitiesebook.org/heb-whitepaper-2.html>.)

9. HEB maintains a title database that, among other functions, tracks the location, by page number, of figures in its page-image books for initial scanning purposes. We were therefore able to quickly access and export this data. HEB's needs for applying special scanning techniques for illustrations vary, however, and thus some types of images — for example, line art — are less likely to have been originally tracked in this manner. In order to be absolutely sure all illustrations are accounted for we would need to double-check each book again by hand and preferably in the future list the total number of illustrations to be included in the handheld edition in a separate database field.

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In terms of related media, HEB was informed by our vendor upon commencing conversion that “at this point of time, handheld devices do not support multimedia files embedded via e-book formats.” It was therefore understood ahead of time that there would be no straightforward way to incorporate the video files associated with one of our books, *Wonder Shows* by Fred Nadis, and links to these were consequently stripped out.¹⁰

IN-HOUSE EVALUATION AND SURVEY

INITIAL ASSESSMENT OF SAMPLE TITLE FORMATTING AND PERFORMANCE

As mentioned above, from the start, HEB anticipated that our output files would be afflicted with at least two types of limitations: for page-image titles, we would need to contend with OCR-related errors; and for XML titles, interactive features would be reduced or impaired in comparison with the online edition. In order to forestall any additional problems with formatting and general functionality before releasing the books to other readers for review as planned, HEB staff conducted an extensive in-house assessment and compiled our additional findings by format and device. In HEB’s case, titles were viewed on the second-generation Kindle, a.k.a., Kindle 2, and the Sony Reader PRS-700, as well as on the iPhone using two free applications capable of displaying ePub and MOBI files, respectively — Stanza and the Kindle app.¹¹

As far as OCR errors were concerned, several of our samples were riddled with a substantial quantity of date-related typos that had not been caught by the automated spell-check.¹² In our experience, the appearance of these typos

10. Note that an alternate approach, though not in keeping with our minimal-intervention philosophy, would have been to upload the existing files separately to our website and replace the video-specific tagging in the XML version with straightforward URLs. In this way, multimedia could indeed be associated with the handheld content, provided the handheld reading device includes a browser and allows for Internet access.

11. HEB’s staff encountered a number of device-related problems interfering with title functionality. For example, at the time, Sony Reader software was not supported by Mac operating systems, although it was possible to download various workarounds generated by third parties. (Sony has since released software compatible with the most recent versions of the Mac OS.) Also, the Sony Reader does not include a browser, so it was clear that any external links in our sample titles would be rendered non-functional. The Kindle does include a browser, but this is categorized as an “experimental” feature and its operation seemed markedly less functional than that of standard desktop browsers. The lack of a touch-screen feature also made using this device less intuitive and more difficult than the Sony counterpart. A full assessment of these particular use-related issues was deliberately omitted from this report as not immediately relevant to our main inquiry into handheld formats and the associated production workflows.

12. Some typical errors from Polanyi’s *Great Transformation*, chapter 1, (print) page 8: “Between i 852 and l 863 Denmark, between i 85 i and l 856 the Germanies threatened to disturb the balance.” Daniel’s *Arabs and Mediaeval Europe* too showed Arabic numeral “1” frequently rendered as “l”, resulting in problems with the interactive index added by the vendor; for example, for the entry “Abbasids: 2l”, only the number “2” was linked, taking users to page 2 rather than to page 21, as intended. This was also pointed out in a report recently released by the Council on Library and Information Resources (CLIR), which compared HEB to Google Book Search (GBS), Microsoft Live SearchBooks (MLSB), Internet Archive’s (IA) text search, and Project Gutenberg in an otherwise largely favorable assessment. See *The Idea of Order: Transforming Research Collections for 21st-Century Scholarship* (Washington, DC: Council on Library and Information Resources, June 2010), pp. 108–10.

fluctuates from book to book, and they show up with greater frequency in those titles, often older, whose font is especially conducive to confusing the number “1” and the letter “l”, the number “0” and the letter “o”, and so on. More sophisticated programs may be able to use automated processes to correctly identify a numeral if surrounded by other numerals, for example. For the time being, HEB’s impression seemed to be confirmed: thorough proofing by a human being — something we had intentionally rejected in order to keep costs down — was the only way to definitively weed out these types of errors. The question remained how relevant this would ultimately be for the usability of these sample titles as scholarly resources.

HEB staff was dissatisfied with the loss of print-page numbers in the MOBI edition for page-image titles as well as paragraph numbers for XML titles.¹³ The Kindle substitutes “location numbers,” which correspond to 128 bytes (characters) of text and are thus considered absolute, therefore suitable for citation purposes. However, since the MOBI books were generated from preexisting editions that contained frequent references to now obsolete pages and paragraphs, confusion was likely to ensue. Following links to terms (e.g., from the index) was also difficult for this reason, involving a lot of scrolling once readers arrived in the vicinity of the sought term. Using XML books with the Kindle struck HEB staff as especially problematic. In the online edition, the table of contents for XML-encoded titles is generated dynamically in the HTML output, based on any text portions tagged as section heads. Therefore, these titles do not contain permanently tagged tables of contents. Without these, the titles in question were rendered more or less non-navigable, though this was mitigated somewhat by the option of referring to locations in the progress bar visible at the bottom of the screen while using the Kindle’s controller to move from section to section.

Direct interaction with the text on the Sony Reader, “turning pages” and accessing links through the device’s touch-screen and stylus were greatly preferred over the Kindle’s indirect navigation. Some navigation issues experienced on the Sony device involved its insertion of non-absolute rendered “page numbers” that did not correspond to page breaks in the print edition, and in fact appeared to be completely unrelated to the source. (As with the MOBI edition, neither print-page numbers nor, for the XML titles, paragraph numbering were retained in the handheld book.) Not only did this make cross-referencing with the print edition impossible, it also resulted in a system that may not be detailed or granular enough to create specific links. In fact, unlike with the Kindle, where interactive links seemed at least to be aiming toward the print-page break, here it appeared that links did not necessarily even take readers within a print page or two of the intended target — making the discrepancy in numbering all the more bewildering. The ePub edition contained a newly generated default table of contents listing these rendered page numbers. In spite of the

13. XML titles in our online collection include paragraph numbering to facilitate citation and referencing, since these books don’t feature pages in the traditional sense. For those XML titles derived from print, the original page numbers also appear in the text, in brackets.

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confusion between the two different numbering systems, this was actually useful in the case of XML books, which, as mentioned, did not include a preexisting TOC. For the page-image titles, it meant that each book now contained two tables of contents, the ePub TOC and the one appearing in the book's original front matter.

Among the staff there was some preference for the MOBI edition on the Kindle in terms of display, searching and mark-up; and for ePub on the Sony Reader for its direct touch-screen functionality. While the iPhone's e-reader applications certainly seemed adequate, there was the possibility that its small screen and LCD display (versus the dedicated readers' use of electrophoretic E Ink displays, which mimic the look of the print page) might prove problematic for long-term reading. There was no way to conclusively decide on one edition over another based on HEB's assessment alone, but we were eager to receive feedback from external users as to their preferences.

SURVEYING READERS

In order to survey other readers, HEB decided to make its sample titles available via its website, which would also enable us to provide some additional descriptive copy and instructions without having to include all this in our e-mail call to participation. (See <http://www.humanitiesebook.org/handheld.html>.) However, since navigation was severely hampered for XML titles on the Kindle, rather than provide the ePub version only and skew our results accordingly — not to mention to avoid having to explain at length why certain features, such as video files, were disabled altogether — it was determined not to poll readers on XML-derived titles. Instead, by simply asking survey-takers which interactive options they considered to be essential to scholarly titles it seemed we could successfully cover a lot of the same ground without explicitly referring to features normally available in XML titles only.

After the three remaining titles — *The Arabs and Mediaeval Europe*, *The Spanish Struggle for Justice in the Conquest of America*, *The Great Transformation* — were uploaded to our website, participants in our survey would be able to follow the links to select a title of their choice for review. (Restricting our inquiry to one title only per participant would enable us to filter results accordingly should the survey turn up title-specific glitches we'd overlooked.) We formulated instructions citing the Sony Reader, Kindle and iPhone specifically, since these represented our core target selection of devices, but allowed for use of any e-reader able to support either MOBI or ePub. Users of the Sony Reader would be able to download a title to their desktop and subsequently sync up their devices; Kindle owners would be able to import titles directly using the device's experimental browser. For the iPhone, adding the URL for the HEB web page containing links to the three sample titles would allow users to access the ePub edition via the free Stanza application.¹⁴

14. Daniel's *Arabs and Medieval Europe* is currently available directly through the Kindle store for \$0.99 — the lowest possible purchase price, as Amazon doesn't allow publishers to offer books for free: <http://www.amazon.com/dp/B002XDR2RQ>. This title can therefore also be read using the Kindle app on Apple's iPhone, iPod Touch and now iPad.

Handheld E-Book Readers and Scholarship

In putting together the survey, we were interested primarily in whether scholarly monographs were perceived as being viable for handheld devices, and furthermore, to what extent general readers and scholars were in fact interested in obtaining a handheld edition of books in the HEB and similar collections. We were also interested in determining whether a clear preference for a particular format would emerge. However, we decided not to branch out into two separate sets of questions for MOBI and ePub users in order to avoid inadvertently soliciting more reader reactions to devices and hardware versus feedback on the titles themselves. We did ask that participants identify their chosen format and handheld reader at the beginning in order to be able to filter our data accordingly.

The questions were posted using [SurveyMonkey](#), an online provider that allows for easy collection and subsequent analysis of responses. An e-mail announcing the survey was sent to a total of over 4,000 individuals consisting of HEB's contacts at educational institutions and ACLS's constituent learned societies, as well as authors and scholars in our databases. In addition, the survey was announced via several HEB News blog posts, inviting all readers to participate.

To view the full set of questions and responses received, please see the [Appendix](#) (pp. 23–34 below).

SURVEY RESULTS

Eighty-six of the 142 responses we received (i.e., more than 60%) were from participants describing themselves as librarians; independent scholars and faculty made up about 13% each, and only 4% of respondents identified as students. Writers, technology consultants and retired instructors were among the remaining participants. The predominantly downloaded format was ePub, and Stanza for the iPhone was the most widely used single device/application combination at about 29% (this may have been in part because HEB provided detailed instructions for using this app and because this option did not require access to a dedicated reader). However, various generations of Kindle together made up the largest category for any specific e-reader used, at over 40%. Other devices included several brands for which we did not test nor necessarily consider our content optimized.¹⁵ Eight participants indicated they either did not own a handheld reading device or that they read the downloaded title on a desktop application; these responses were not filtered out because HEB felt they might still yield some useful comments on edition preferences and e-reading practices.

Most respondents indicated they were quite satisfied with navigating through the books, in spite of limitations resulting from reformatting for ePub and MOBI as described above. More than 90% of respondents were fairly happy with simply reading through the book and around 80% were satisfied with use of various internal links. However, there were also several respondents in each navigation

15. Such as pReader on the Palm Pre, MobiPocket on a Blackberry, and even the Barnes & Noble nook (technically not yet in release upon launch of our survey).

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subcategory who expressed extreme dissatisfaction with these options. Formatting also received mainly favorable responses, again with about 90% being either very or somewhat satisfied with layout and fonts. Presentation of images and tables in HEB titles was regarded as less satisfactory, though it should be noted that a relatively large percentage of participants (25% and 52%, respectively) were unable to locate examples of either, which was not unanticipated, since the sample books contained a limited number of illustrations.¹⁶

The majority of respondents were not bothered by OCR-derived errors in the texts (84% were unperturbed by the potential presence of errors and 75% did not notice any to begin with). This is reminiscent of the results of a previous HEB survey on retroactive conversion of twenty page-image titles to XML, for which the same OCR-derived-text source was used, and could be interpreted as an indication that this type of source is in fact acceptable for generating e-book content without further proofing or quality control.¹⁷

Features and functions pertaining to e-reader hardware were rated overall somewhat more negatively than those pertaining to the sample titles specifically. At least for this type of output, this implies that device shortcomings outweighed any inadequacies related to the reformatted content in their negative impact on the reading/research experience. Hence, as devices improve, the same type of content may fare better and be perceived as more useful for scholarly work.

Participants in our survey reported difficulties with using the search function (more than half experienced some level of frustration). Satisfaction with other interactive features, such as adding notes, bookmarks and highlights, was noticeably higher and ranged between 45% and 74%; bookmarking stood out, with 74% of respondents being either somewhat or very satisfied. However, it seems significant that the “n/a” option received the largest number of responses for both note-taking and highlighting, implying that users may have experienced problems figuring out how to do this. This is corroborated by several comments solicited in open responses at the end of the survey, as users expressed a desire for an easier way of compiling notes, and two users indicated being unable to access or find manufacturer instructions for performing any of the tasks listed above. Options for referencing passages within the text also received exceptionally low marks, with close to 19% of participants finding this impossible to do in a clear manner and 55% finding it doable only through use of additional contextual cues (i.e., citing some of the text). These responses seem to reflect frustration with the absence of conventional print page numbers in either version of the handheld titles (as mentioned above, these are replaced with “locations” and alternate “pages” in the MOBI and ePub editions, respectively).

16. Also, due to a random conversion error, page numbers and links were omitted from the list of illustrations in the ePub version of Hanke's *Spanish Struggle for Justice*, making it especially difficult to find the illustrations in this book.

17. Results of the XML-conversion survey are available at <http://www.humanitiesesebook.org/heb-whitepaper-2.html#appendix>.

Handheld E-Book Readers and Scholarship

HEB asked participants if, based on their experience with the sample titles, they would be interested in downloading additional similar scholarly monographs for their handheld reader. Forty-six percent answered yes, and an additional 29% expressed interest in this if the titles were free or priced below \$10. The remaining respondents indicated they would only be interested if no print or other electronic edition were available (10%), that they found using the titles problematic and non-user-friendly (5%), or that the content was not of interest to them (3%). Additional comments contained further price-related caveats, a desire primarily for obtaining subscription packages including multiple titles and concern with the proprietary nature of the two formats on offer for download.¹⁸

HEB also surveyed participants regarding their overall reading preferences, and current use of handheld readers for research purposes appeared to be relatively low (only 13% of total responses fell into this category, which represents about 17% of all participants reporting regular or occasional reading on handheld devices in any capacity). Interestingly, of those respondents who were also subscribers to HEB's online collection, those preferring the handheld edition for general reading outnumbered those preferring the online edition three to one; whereas for use in research, 69% preferred the online collection. Similarly, three out of four librarians surveyed felt their patrons would also prefer the handheld edition for general reading, and about 71% felt their patrons would prefer the online edition for research. Nevertheless, approximately 63% of librarians indicated they would be somewhat or very likely to reallocate a portion of their budget for subscription to online resources to downloadable books for handheld devices. This may imply that respondents' willingness to download more titles is mostly based on a positive experience with general reading; though perhaps had the question been phrased in terms of using the handheld edition expressly for the purpose of writing or researching a paper, for example, the results would have been different.

At the end of the survey, participants were asked to rate the importance of various e-book functions for the use of scholarly monographs on handheld devices (regardless of whether the e-reader they were using at the time could in fact perform these functions). Zoomable images were at the top of the list of features considered crucial to scholarly work, rated as either somewhat or very important by 89% of respondents. Eighty-three percent considered web links to belong in these categories. Searching across multiple titles within a collection was considered somewhat or very important by 83% of participants (at the time of our survey, the Kindle included this feature while the Sony Reader did not). Among features not currently available for the specific formats and e-readers being tested, color images were rated somewhat or very important by 79%,

18. EPub can entail, but does not mandate, inclusion of DRM (digital rights management). DRM is imposed on certain types of files in order to restrict access and duplication. However, some systems that generally do require adhering to specific DRM schemes may have display difficulties or be incompatible with files that do not include this provision. This may explain why some users experienced apparently DRM-related problems in accessing titles on their devices regardless of the fact that HEB's files were technically free of such restrictions. Also see section on DRM in [Wikipedia](#) entry for ePub.

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and interactive media embedded within titles by 63%. When asked which other features they considered important, participants' responses covered better internal linking and navigation options; being able to export an entire book or excerpt in alternate formats; and better options for citation, referencing and annotation, as already mentioned above.

Taken in its entirety, this data more or less confirms HEB's own assessment of the sample handheld titles — namely that the convenience of portability and access to permanent downloads (perceived as a boon for casual reading) did not outweigh the problems of limited functionality when it came to scholarly reading, though alternate and forthcoming e-readers will probably offer better options in many of the categories most essential to users. In terms of differentiating between editions, those respondents that downloaded MOBI files (who consisted predominantly of Kindle users, with the exception of one Palm Pre and one Blackberry user) seemed somewhat more enthusiastic about their e-readers in general: this group indicated handheld reading was normally their preference, and a substantial 93% of those who also had access to HEB's online titles preferred the handheld version for general reading — versus 70% of ePub users (who were reading on the Sony Reader, Stanza for iPhone/iPod Touch, as well as a few other handheld devices). Even for research purposes, the handheld version was preferred by 39% of the MOBI group, versus 28% of ePub users. MOBI users were also overwhelmingly satisfied with navigation and formatting. ePub users in turn were somewhat more satisfied than their counterparts with searching. Since ePub was used with a wider assortment of handheld devices, fewer than 25% of which were dedicated readers, this may suffice to explain the discrepancy in enthusiasm for the handheld edition. As far as HEB's conversion experiment and sample titles are concerned, these results did not seem far-reaching enough to indicate that one format was preferable over the other for application in scholarly work.¹⁹

COST AND OTHER PRACTICAL CONSIDERATIONS

COST ANALYSIS

Without any immediate incentive besides the ever-growing interest generated by handheld e-readers, is adding this type of scholarly content worth the conversion cost and time investment for publishing houses currently specializing in other formats? In HEB's case, conversion of all six sample titles from the source files into two formats, ePub and MOBI, came to \$1,222.96, or approximately \$102 per title per format. This included a one-time set-up fee of \$200 as well as extraction of images for the three page-image books (since HEB did not have access to separate existing files for these, as we did with the XML titles), at \$0.30 per image. Obviously, for heavily illustrated titles, this could have a significant impact on unit cost. Also, our pricing was

19. As an important complement, please also see "[E-Readers Advance in Academe: a 'Chronicle' Survey](#)," *The Chronicle of Higher Education* (June 13, 2010), detailing the results of a survey conducted exclusively among *Chronicle* readers. This group was found to be favorably inclined toward handheld e-readers, but with a strong preference for using them to read "for pleasure" and some reservations similar to those of HEB's respondents concerning "scholarly publications."

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dependent on conversion order, where the books were first processed as ePub files, then converted to .prc/MOBI, the most efficient approach according to every vendor from whom we solicited a quote. Finally, XML processing was somewhat cheaper than processing of OCR-derived text files, since tagging of the XML source already represented a closer match to the final output.

For the purpose of scalability, it may be useful to recalculate the per-title cost using page-image titles only²⁰ and omitting the set-up fee. Since converting from OCR text is more expensive than from XML, even without the set-up fee, for a sample of three page-image titles reflecting the HEB collection's average 370 pages and 10 illustrations per book, the per-title cost would be somewhat higher and comes to about \$266, or \$133 per format. Larger-scale jobs would come with a price break. Hence, if converting, for example, 300 average page-image titles, we estimate the unit cost would come closer to about \$116 per title per format, or \$232 including both editions, if the same conversion order were retained and both ePub and MOBI editions were being created.²¹ The estimate for ePub only would amount to about \$195 per title. (Again, since MOBI was derived from ePub, HEB currently does not have an estimate for this as a stand-alone format.) These totals do not include OCR scanning to obtain the source text files for page-image titles, since this step was performed in HEB's case before the books were uploaded to the online collection. Therefore, producing a title suitable for handheld reading from a print source without a preexisting digital file would add about \$170 per title, based on HEB's regular preparatory workflow for page-image titles. Note that these calculations do not include any overhead expenditures for project management, communication, trafficking of materials, third-party retailer fees or distributor discounts, et cetera, and these would need to be added in by publishers according to their standard accounting methods and breakeven calculations.

In HEB's case, assuming a charge of \$10 per download for each book, which appears to be within an acceptable price range as per our survey results, production costs would be offset at twenty-four downloads for the average page-image book in our online collection if producing both the ePub and MOBI editions; for ePub only, the cost would be offset at twenty downloads. For most presses this would represent a relatively modest and achievable target figure, especially if course adoptions were a possibility for the titles in question; again, however, these breakevens do not include overhead and other costs, which would have a determinant impact on final figures.

20. As mentioned, page-image backlist titles make up the bulk of HEB's collection of now close to 2,800 books, which as of July 2010 also includes seventy-seven XML titles.

21. This number represents a realistic quantity for HEB, were we to pursue conversion of additional books, as these would probably only include titles for which rights have been assumed or could be easily obtained. The model for offering these for individual download would likely be HEB's print-on-demand program, which currently includes 390 titles. For more information, see <http://www.humanitiesebook.org/pod.html>.

DO WE EVEN NEED A VENDOR?

There is also the possibility for publishing entities of taking on the entire production process themselves and forgoing employment of an external vendor altogether.

On the one hand, as alluded to above, oversight of and technical insight into the conversion process may become increasingly challenging for publishers as handheld reading devices and formats evolve.²² Even at this stage, examining or implementing post-proofing corrections to handheld editions is difficult without more extensive staff training; as additional devices enter the market, and until one standard emerges as predominant, publishers may simply not be able to keep enough employees on staff who possess both the editorial expertise to be able to function as traditional production editors plus the technical skills to oversee all details of multifarious digital production. This seems in keeping with a general trend in publishing toward outsourcing the majority of tasks requiring specialized skills rather than continuing to employ in-house design or copyediting staff, for example. Therefore, handing over production of titles formatted for handheld readers to an outside vendor with greater technical knowledge may be the most practical course for many presses.

Then again, in answer to this technological predicament now facing every publisher and prospective publisher of handheld e-reader editions, a number of programs have been developed to facilitate generation of ePub and MOBI files. Many of these are available free of charge;²³ others are available for purchase.²⁴ Making use of these options — especially some of the less refined third-party tools — may require a considerable time investment and in some cases would entail manual, piece-by-piece reconstruction of books from existing Microsoft Word documents or HTML files; nonetheless, the prerequisite technical know-how would be greatly reduced.

22. For an overview of predominant technical as well as other practical concerns for publishers, see the Association of American University Presses' report "Digital Publishing in the AAUP Community" (Winter 2009-2010), detailing results from a survey of fifty-nine university presses and available here: <http://www.aaupnet.org/resources/reports/0910digitalsurvey.pdf>. Among other findings, the survey indicated that "Business Model, Rights, and Resources are considered the greatest concerns in pursuing digital book publishing opportunities" (page 6). Note that this particular report addresses all types of digital publishing, regardless of format and platform. For another overview of the "biggest challenges in bringing eBooks to the market," among other statistics on publishing trends among 300 of the company's clients and other interested parties, see Aptara's survey report "EBooks: Uncovering their Impact on the Publishing Market" (<http://www.aptaracorp.com/index.php?/eBook-survey1.html>). Here DRM-related concerns represented a problem for 16% of all participants, outweighing concerns about cost and quality.

23. See, e.g., Lexcycle's online guide listing a number of tools for generating ePub files: http://www.lexcycle.com/faq/how_to_create_epub; the free Mobipocket Creator for Windows: <http://www.mobipocket.com/en/DownloadSoft/ProductDetailsCreator.asp>; and the eCub tool for creating both formats (though MOBI files require an additional third-party download): <http://www.juliansmart.com/ecub>.

24. For example, DNAML's PDF to ePub wizard for Windows. This software is described in greater detail in the article "[DNAML Releases PDF to ePub Conversion Software](#)," *Publishers Weekly* (September 16, 2009).

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Finally, some vendors are offering hybrids of these two approaches, in which the (presumably more sophisticated) automated conversion platform is provided by and housed on the vendor's server rather than residing with the publisher. An example of this is Aptara's recently released eGen conversion tool, which can be custom-tailored to match a publisher's specifications and process a greater quantity of books at once (see <http://www.aptaracorp.com/index.php?/solutions/ebook-production-made-simple.html>).

It is likely that many publishers, especially smaller university presses and learned societies, will continue to struggle with this production workflow conundrum in the future. The extent to which it is feasible for a publisher to take handheld conversion into its own hands may in the end simply boil down to the number of titles to be published.

CONCLUSION: SCHOLARLY MONOGRAPHS ON HANDHELD DEVICES

PRINT VERSUS DIGITAL, ONLINE VERSUS HANDHELD

In spite of the expanding role of digital resources in scholarly research, a recent article from *Inside Higher Ed* titled "E-Library Economics" addresses the prevailing reluctance in academia to adopt electronic editions. Citing two separate studies by the [Council on Library and Information Resources](#), the article laments the lack of a universal e-book standard not just for the convenience of an immediate readership, but also for archival purposes — the latter being especially important to university libraries. In addition, one of the studies reflects the problems experienced by both HEB staff and our survey participants in working with our sample handheld titles, pointing out some of the concrete drawbacks these editions entail in comparison to traditional print books:

Though e-books are poised to gain a firm foothold in higher education within the decade, the authors predict, academics and e-reader vendors aren't yet on the same page. This is largely due to the fact that e-readers have not managed to replicate certain aspects of the traditional book-reader's user experience: "You can do a lot with a print book: photocopy or scan as many pages as you like, scrawl in the margins, highlight passages, bookmark pages, skip around, read it in the bathtub, give it to someone else, make art out of it, etc.," the Rice researchers note. "Due to constraints imposed by some [Digital Rights Management] regimes, readers of e-books may find that they only can print a limited number of pages, have to navigate awkwardly through the book, cannot take notes or bookmark pages, and cannot give the book to someone else." While they enjoy the searchability of electronic documents and databases, academics still prefer holding a book in their hands to read it.²⁵

It is important to note that the above passage does not differentiate between platforms or types of e-books; the problems surrounding digital editions are attributed in equal

25. Steve Kolowich, "[E-Library Economics](#)," *Inside Higher Ed* (February 10, 2010). Also see CLIR's subsequently released report, Lisa Spiro and Geneva Henry, "Can a New Research Library Be All-Digital?," *Idea of Order*, pp. 5–80.

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measure to handheld titles and online collections. Meanwhile, as HEB determined in its own experiment, online books currently outperform handheld titles in several respects that could be important to scholarship, such as being able to access and search a vast collection of titles simultaneously. Then again, certain problems touched on in the above passage are actually more pronounced in online titles, since unrestricted portability and permanent “personalization” of titles through annotation and other means, mimicking the characteristics of a print edition, are generally only accomplished through downloading.

Several studies have been conducted in university classroom settings that focus on handheld digital titles in particular. As reported by *The Chronicle of Higher Education*, a fall 2008 pilot project at Northwest Missouri State University — involving textbook assignments on the Sony Reader and undertaken with the participation of selected textbook publishers — misfired because students couldn’t work with their textbooks as quickly and efficiently as they were accustomed to with the print counterparts. Not being able to quickly flip and skim pages and awkward note-taking were cited as specific impediments. Notably, participants in the experiment were eventually switched to laptop-friendly editions, sticking with digital over print but moving away from handheld readers.²⁶ A change in devices yielded nearly identical results in a study conducted at Princeton in May 2009, in which fifty students were provided with Kindle DX readers (these have larger displays compared to the traditional Kindle) and asked to try out textbooks on this platform. Here, too, the e-reader’s text mark-up features were considered inadequate as compared to the physical edition, and the absence of page numbers was considered an impediment to citation.²⁷

In HEB’s own experiment too problems with annotation were seen as a paramount drawback to reading scholarly monographs on the handheld devices. HEB’s survey, however, found less dissatisfaction with navigation than the two studies referenced above; this is likely because textbooks generally represent denser and more wide-ranging reading material, and paging through one on an e-reader while scanning for keywords could lead to greater frustration than following a linear thesis in a scholarly monograph. The further sticking points surrounding interactive features, multimedia and Internet access uncovered by HEB were not investigated by the textbook-oriented studies cited above and represent additional shortcomings for these editions when compared to existing online resources.

All this seems to reinforce HEB’s survey-derived postulation that certain aspects of digital scholarship fare much better in online collections that forgo portability and — in

26. Jeffrey R. Young, “[How a Student-Friendly Kindle Could Change the Textbook Market](#),” *The Chronicle of Higher Education* (May 6, 2009). Also see Young, “[Six Lessons One Campus Learned About E-Textbooks](#),” *ibid.* (June 4, 2009). Subscription required to access latter article. For a more detailed description of this survey, see “[A Campus-Wide E-Textbook Initiative](#),” *EDUCAUSE Quarterly Magazine*, Volume 32, Number 2 (2009).

27. “[Princeton Students dislike Amazon Kindle](#),” *The Daily Telegraph* (October 1, 2009). For more on the project, including a link to a detailed report featuring extensive student responses, see the institution’s own “[E-reader Pilot Program at Princeton](#), Fall 2009”.

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HEB's case as well as other, similar collections, such as [JSTOR](#) or [Project MUSE](#) — the option to preserve personal annotations, but instead offer better search options, better navigation, more text per page for skimming purposes, better graphics, color images, et cetera. However, a handheld reader that is able to replicate these features could perhaps offer the best of both worlds: the print-like aspects students in the textbook surveys were missing in their handheld editions as well as the bonuses of searchability and interactive features only available in a digital title.

WHAT WILL FUTURE HANDHELD READERS BE ABLE TO DO?

Much has been written about assorted handheld reading devices and formats pulling potential adopters in different directions, and the lack of a common standard slowing down adoption of handheld readers altogether. Nevertheless, awareness and ownership of electronic readers has dramatically increased over the past two years and will continue to rise steeply, according to Sarah Rotman Epps, an analyst for the technology-oriented market research company Forrester Research. According to a fall 2009 report, customer surveys suggest that three million e-readers were purchased in 2009, 60% of them Kindles and 35% Sony Readers. Year-end estimates in 2009 were that sales for all types of dedicated e-readers would at least double in 2010.²⁸ In addition to the Kindle and the Sony Reader, the Barnes & Noble nook and Apple's iPad have since been released, the former in November 2009, the latter in April 2010. Both devices are ePub compatible and will undoubtedly figure prominently in future handheld-reader market shares (though the iPad is not a dedicated e-reader and its sales will undoubtedly extend well beyond this particular target audience).²⁹

Even though only devices with LCD screens are currently able to display color and E Ink is still only available in black and white, electrophoretic displays have generally been considered preferable to LCD by readers in the past (though this may no longer be true in the era of the iPad). In any event, electrophoretic display / color combination e-readers may become available as early as 2011, as Forrester's research indicates. By next year, new iterations of existing devices should also feature better wireless service and integration of multimedia files, both of which would be relevant for those users primarily interested in conducting scholarly research. Of greater interest for textbooks containing extensive graphics and charts would be a display with bigger dimensions than even the iPad's; this too will eventually be accommodated in the form of lighter, larger, flexible-screen devices

28. This data was presented in "EBook Readers & Standards... Where to Next?"

29. According to the June 2010 *Chronicle* study cited above in note 19 — see "[E-Readers Advance in Academe: a 'Chronicle' Survey](#)" — nearly 40% of its readers own some type of handheld e-reader. "The most popular device by far among the survey respondents is Amazon's Kindle, but for those who say they will buy one, the iPad is the most popular choice. (Of those who don't currently own an e-reader, 36 percent say they plan to buy one in the next year.)" Indeed, as Apple announced shortly after the aforementioned article was published, three million iPads were sold in the device's first eighty days on the market. See Charlie Sorrel, "[Apple's iPad Sales Accelerate: Three Million Sold in 80 Days](#)," *Wired Online*, Gadget Lab blog (June 23, 2010).

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and even rollable screens (currently still in prototype).³⁰ The annotation and citation conundrum may be resolved through the inclusion within e-reader applications of a touch-screen function to allow for handwritten notes, representing a modification of a feature already technically available in some form on existing devices. Since textbook markets are continually touted as crucial targets for further e-book dissemination, and students are explicitly expressing a desire for better annotation options, this will undoubtedly be taken into account by enterprising developers.

While the industry may eventually zero in on a common standard, as was the case with mp3 audio files and players, the specific e-reader on which the content is displayed may subsequently matter less and less as users continue to read books on various devices, including dedicated readers, smart phones/PDAs and tablet computers. Thus, a combination of a technologically advanced portable device and a flexible, cross-platform format — allowing for multi-faceted, interactive content — would probably satisfy the needs of scholarly researchers on a title-by-title basis; while solid wireless capabilities in conjunction with cloud computing approaches may eventually enable effortless sharing and cross-searching of content between devices or between a user's device and an external digital archive. In that case all desirable properties of online collections as well as print editions could indeed eventually be replicated in handheld e-readers. At least in the short term, and until all these factors are in place, however, a combination of traditional research using online and physical resources and old-school note-taking in a separate document or even on a print-out is likely to remain the favored and more practical approach for most scholars.



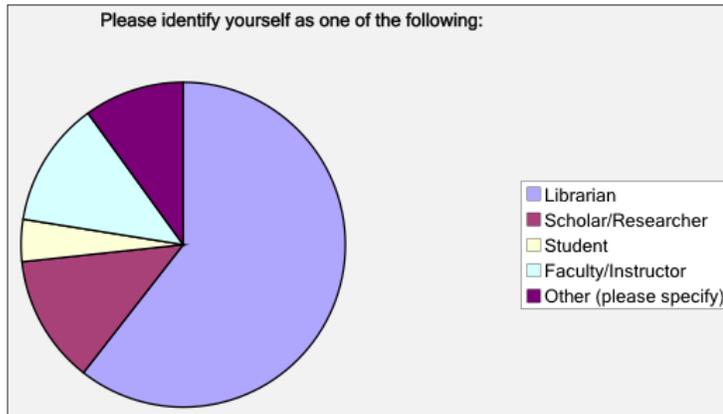
30. See Dan Nystedt, "[Taiwanese researchers show several flexible e-reader screens](#)," *Computerworld* (November 26, 2009).

APPENDIX: SURVEY RESULTS

Question 1

Please identify yourself as one of the following:		
Answer Options	Response Percent	Response Count
Librarian	60.6%	86
Scholar/Researcher	12.7%	18
Student	4.2%	6
Faculty/Instructor	12.7%	18
Other (please specify)	9.9%	14
<i>answered question</i>		142
<i>skipped question</i>		0

	Other (please specify)
1	Attorney, writing nonfiction history book
2	Library IT staff
3	Retired faculty, writer
4	retired
5	Library IT development manager
6	Patron
7	ACLS Employee
8	Reader
9	Technologist/consultant
10	Technologist/consultant
11	retired journalist
12	Publisher
13	Webmaster
14	Designer

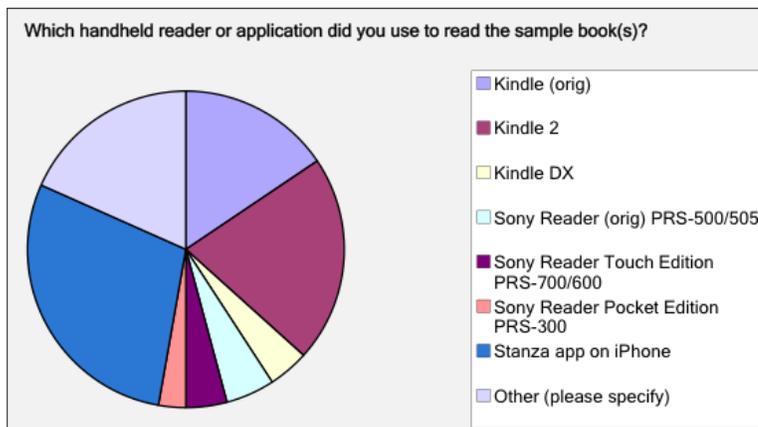


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Question 2

Which handheld reader or application did you use to read the sample book(s)?		
Answer Options	Response Percent	Response Count
Kindle (orig)	15.5%	22
Kindle 2	21.1%	30
Kindle DX	4.2%	6
Sony Reader (orig) PRS-500/505	4.9%	7
Sony Reader Touch Edition PRS-700/600	4.2%	6
Sony Reader Pocket Edition PRS-300	2.8%	4
Stanza app on iPhone	28.9%	41
Other (please specify)	18.3%	26
answered question		142
skipped question		0

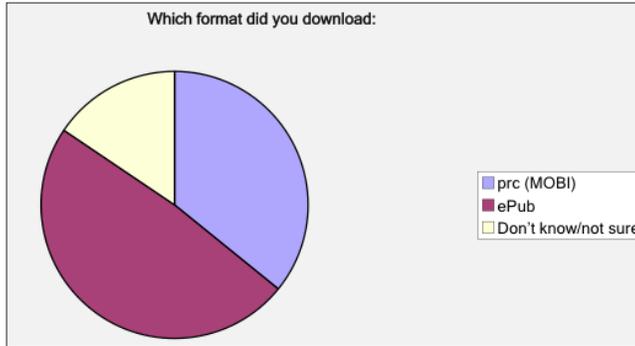
Other (please specify)	
1	Blackberry with MobiPocket
2	Stanza app on iTouch
3	Adobe Digital Editions
4	e-text
5	Sigil
6	I don't have a handheld reader. I use a blackberry.
7	Stanza app on iPod Touch
8	Aldiko on Google Phone
9	firefox plugin epubreader plugin
10	IPhone
11	stanza app on ipod touch
12	kindle for pc
13	Stanza app on iPod Touch
14	Stanza app on Ipod touch
15	MS reader
16	I didn't download it because I use a different device to read ebooks. I prefer .lit or .txt files.
17	I am thinking of purchasing a reader.
18	iPhone
19	pReader on the Palm Pre
20	iphone
21	Kindle for PC
22	Barens and Noble Nook
23	Ipod Touch
24	Don't have a hand held reader yet
25	Stanza app on iPod Touch
26	pReader on the Palm Pre



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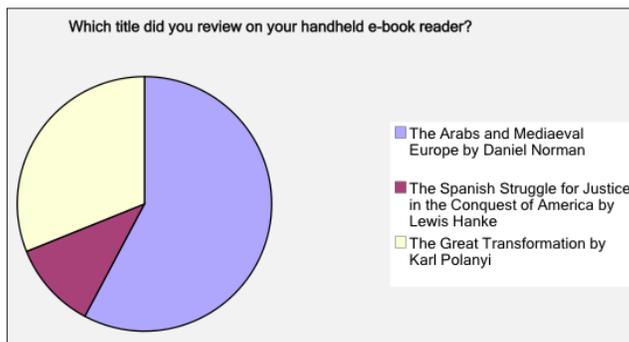
Question 3

Which format did you download:		
Answer Options	Response Percent	Response Count
prc (MOBI)	35.9%	51
ePub	48.6%	69
Don't know/not sure	15.5%	22
answered question		142
skipped question		0



Question 4

Which title did you review on your handheld e-book reader?		
Answer Options	Response Percent	Response Count
<i>The Arabs and Mediaeval Europe</i> by Daniel Norman	57.7%	82
<i>The Spanish Struggle for Justice in the Conquest of America</i> by Lewis Hanke	11.3%	16
<i>The Great Transformation</i> by Karl Polanyi	31.0%	44
answered question		142
skipped question		0



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Question 5

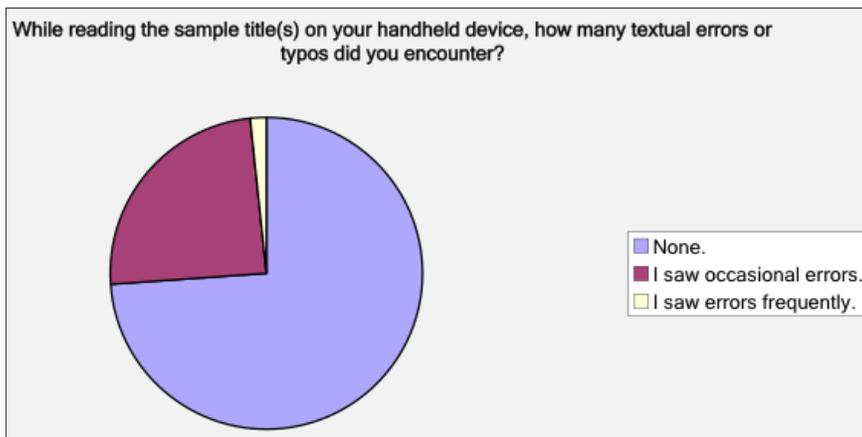
How satisfied were you with navigation in the following situations?						
Answer Options	Very satisfied	Somewhat satisfied	Somewhat dissatisfied	Very dissatisfied	Rating Average	Response Count
Reading or scrolling through the book	89	27	7	3	3.60	126
Accessing specific text sections (e.g., chapters, pages, locations)	62	49	8	7	3.32	126
Using internal links (e.g., note reference numbers, links in index)	53	43	16	14	3.07	126
<i>answered question</i>						126
<i>skipped question</i>						16

Question 6

How satisfied were you with the following types of formatting?							
Answer Options	Very satisfied	Somewhat satisfied	Somewhat dissatisfied	Very dissatisfied	N/A	Rating Average	Response Count
General layout/formatting of text	72	39	6	2	4	3.52	123
Layout/formatting of headings (book, chapter, section)	63	48	6	1	5	3.47	123
Font size/legibility	82	30	6	0	5	3.64	123
Presentation of images	32	37	18	5	31	3.04	123
Presentation of tables	19	30	9	0	65	3.17	123
<i>answered question</i>							123
<i>skipped question</i>							19

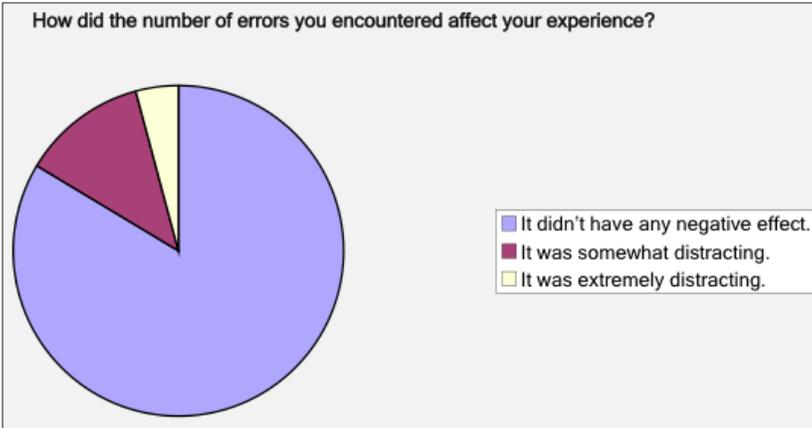
Question 7

While reading the sample title(s) on your handheld device, how many textual errors or typos did you encounter?		
Answer Options	Response Percent	Response Count
None.	74.0%	91
I saw occasional errors.	24.4%	30
I saw errors frequently.	1.6%	2
<i>answered question</i>		123
<i>skipped question</i>		19



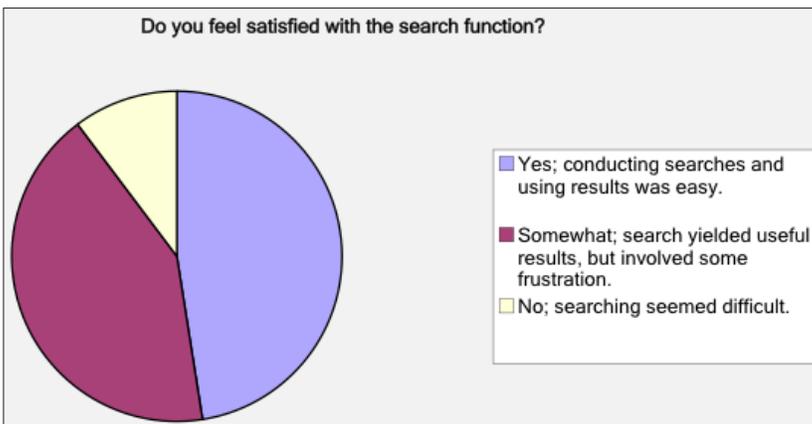
Question 8

How did the number of errors you encountered affect your experience?		
Answer Options	Response Percent	Response Count
It didn't have any negative effect.	83.7%	103
It was somewhat distracting.	12.2%	15
It was extremely distracting.	4.1%	5
answered question		123
skipped question		19



Question 9

Do you feel satisfied with the search function?		
Answer Options	Response Percent	Response Count
Yes; conducting searches and using results was easy.	47.5%	56
Somewhat; search yielded useful results, but involved some frustration.	42.4%	50
No; searching seemed difficult.	10.2%	12
answered question		118
skipped question		24



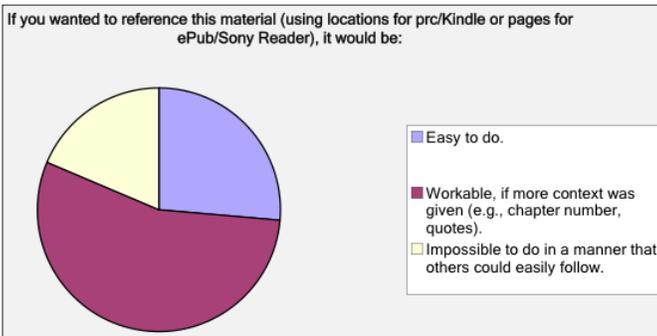
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Question 10

How satisfied were you with the following?							
Answer Options	Very satisfied	Somewhat satisfied	Somewhat dissatisfied	Very dissatisfied	N/A	Rating Average	Response Count
Adding and working with user-created notes.	24	29	14	9	42	2.89	118
Bookmarking text sections of interest.	43	44	5	5	21	3.29	118
Highlighting text sections of interest.	35	33	3	8	39	3.20	118
<i>answered question</i>							118
<i>skipped question</i>							24

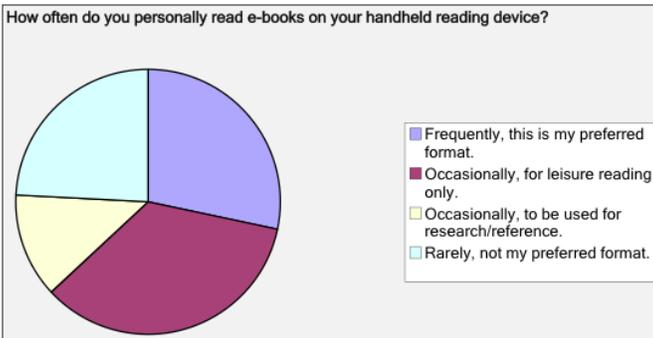
Question 11

If you wanted to reference this material (using locations for prc/Kindle or pages for ePub/Sony Reader), it would be:		
Answer Options	Response Percent	Response Count
Easy to do.	26.3%	31
Workable, if more context was given (e.g., chapter number, quotes).	55.1%	65
Impossible to do in a manner that others could easily follow.	18.6%	22
<i>answered question</i>		118
<i>skipped question</i>		24



Question 12

How often do you personally read e-books on your handheld reading device?		
Answer Options	Response Percent	Response Count
Frequently, this is my preferred format.	28.4%	33
Occasionally, for leisure reading only.	34.5%	40
Occasionally, to be used for research/reference.	12.9%	15
Rarely, not my preferred format.	24.1%	28
<i>answered question</i>		116
<i>skipped question</i>		26

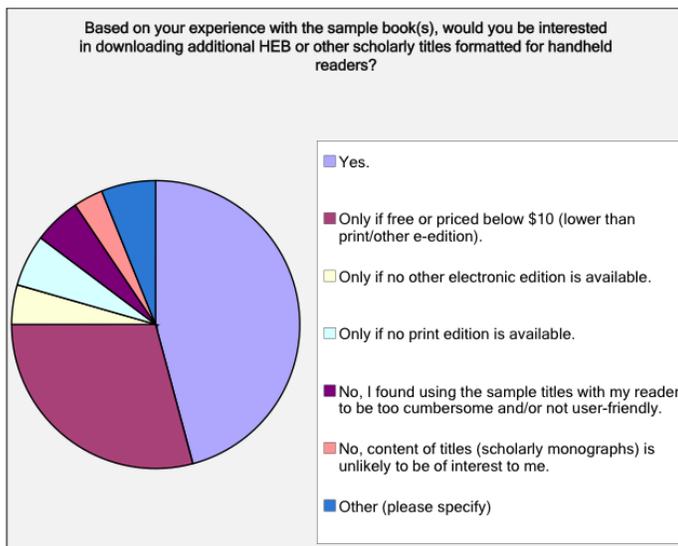


Handheld E-Book Readers and Scholarship

Question 13

Based on your experience with the sample book(s), would you be interested in downloading additional HEB or other scholarly titles formatted for handheld readers?		
Answer Options	Response Percent	Response Count
Yes.	45.7%	53
Only if free or priced below \$10 (lower than print/other e-edition).	29.3%	34
Only if no other electronic edition is available.	4.3%	5
Only if no print edition is available.	6.0%	7
No, I found using the sample titles with my reader to be too cumbersome and/or not user-friendly.	5.2%	6
No, content of titles (scholarly monographs) is unlikely to be of interest to me.	3.4%	4
Other (please specify)	6.0%	7
answered question		116
skipped question		26

Other (please specify)	
1	If included as part of a package ebook deal, would be useful for students, faculty, researchers, etc. when print option is not readily available.
2	Yes, if they were in a less proprietary format.
3	If I "rented" for free; like a library, for a limited time.
4	if part of subscription, I would offer to users
5	I only use PDF and TXT, not DRM formats like ePub etc, they are too much hassle. So I failed to install your sample e-book on my reader for that reason.
6	Yes, if my library provided access
7	Might like as a second format choice to ride on existing HEB access



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Question 14

In answering this question, please disregard any current technical limitations pertaining to your handheld reading device itself. When considering the use of scholarly monographs on your handheld device, how important are each of the following features?					
Answer Options	Very important	Somewhat important	Unimportant	Rating Average	Response Count
Web links/access to external resources	46	50	20	2.22	116
Cross-searchability between downloaded titles	44	52	20	2.21	116
Interactive media (audio, video)	25	48	43	1.84	116
Zoomable images	63	40	13	2.43	116
Color images	42	50	24	2.16	116
<i>answered question</i>					116
<i>skipped question</i>					26

Question 15

If there are other features not mentioned above that would be important to you, please comment on them here:	
	Response Text
1	Making notes with stylus on page in addition to note-taking feature
2	hypertext indexing
3	Including an index for non-fiction is critical. Use of tables would be important. Adding footnotes would be important, too.
4	Ability to export marked e-book to PDF format on computer--very important to keep a back-up of annotations.
5	ability to share portions of the monograph with another person...
6	It would be a big help to be able o download notes or highlighted sections without having to retype them. Also, it awkward on the kindle to describe the location of a citation in terms that readers of the print edition could understand.
7	Using the iPhone, the tips for navigating through and using the features appeared once and could not be accessed (or I could not figure out how) once inside the book. I even went to the stanza website and tried to find them but couldn't.
8	Create a citation in my citation style and send to email. Send passage to a friend.
9	Page number and a dynamic table of contents that allows you to go directly to chapters and back.
10	ability to tag and augment text
11	maybe a way to search for images; looked around but didn't see a way. when you hold a paper book, you can usually flip through to the plates, or an image will catch your eye... don't know what the equivalent might be on a reader.
12	1. see the actual page numbers 2. more with formatting to help understand the internal structure of the text/idea; the whole text looks like a long, long paragraph, it is hard to see the structure of the chapter, such as introduction, hypothesis, analysis, conclusion (even although the author did not label so, readers know by scanning the actual pages.)
13	I did not see any other place to put this info. So, I just wanted to let you know that on my iPhone if the font was not small enough it sometimes cut off the bottom of the page. A bug?
14	audio?
15	The book I looked at did not have any footnotes to link to, it listed references at the end of the book in a notes section, each citation in the notes was identified by the page number. But there are no page numbers in kindle so I did not know how to link the citation (in the notes) to the page of the book it was a citation for.

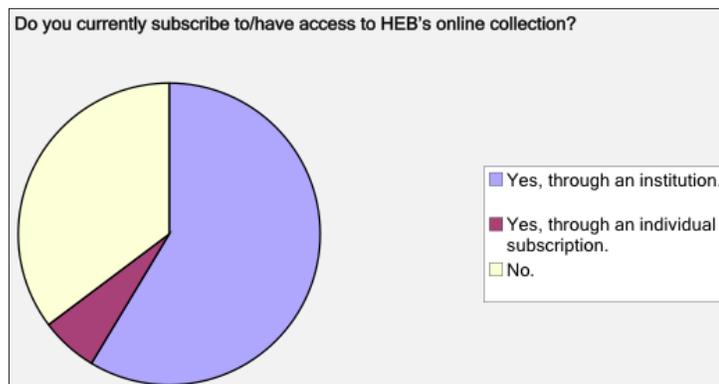
Handheld E-Book Readers and Scholarship

Question 15 (cont'd.)

16	no
17	Simple to use format with no DRM hassles and no requirement for extra software. I just want to drag a book to the device in Windows Explorer and read it.
18	Ability to export citations to Zotero, RefWorks, etc.
19	no
20	Seeing footnote at the bottom of the page--clicking back and forth is problematic & did not always result in an easy transition.
21	The dilemma is Kindle seems to use screen captures rather than pagination. Also, it seems difficult to export references to a citation manager. Maybe that's just the function of the Kindle - maybe it's my lack of experience.
22	n/a
23	being able to highlight individual passages and copy them instead of the very difficult need to "print screen" or flip back and forth between text and whatever I am writing and want to quote. This is actually WORSE than having a hard copy. Same with Googlebooks.
24	It would be very helpful to have a place to compile notes taken/annotations and it would be great if they could be pasted along with the page numbers from which they are taken.
25	Didn't see a "highlighting" feature, but perhaps I didn't investigate thoroughly.
26	acsl instructions for stanza on iphone do not work in app. menus don't exist, stanza crashes
27	Links for footnotes
28	ease of movement back and forth between ToC, index, and main text
29	Index
30	Being able to reference specific portions. Ability to share among libraries, as we do with print books. Perpetual availability or purchase. Links out to works cited would be great.
31	Visible page numbers rather than "location" numbers.

Question 16

Do you currently subscribe to/have access to HEB's online collection?		
Answer Options	Response Percent	Response Count
Yes, through an institution.	58.6%	68
Yes, through an individual subscription.	6.0%	7
No.	35.3%	41
answered question		116
skipped question		26

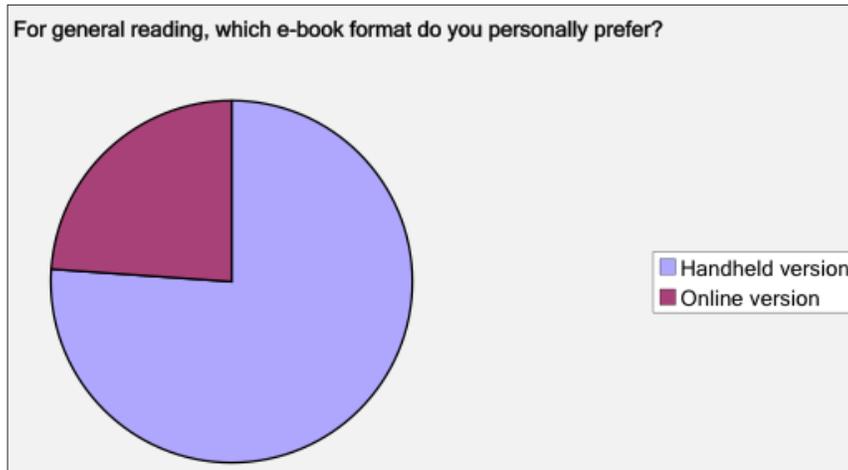


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Question 17

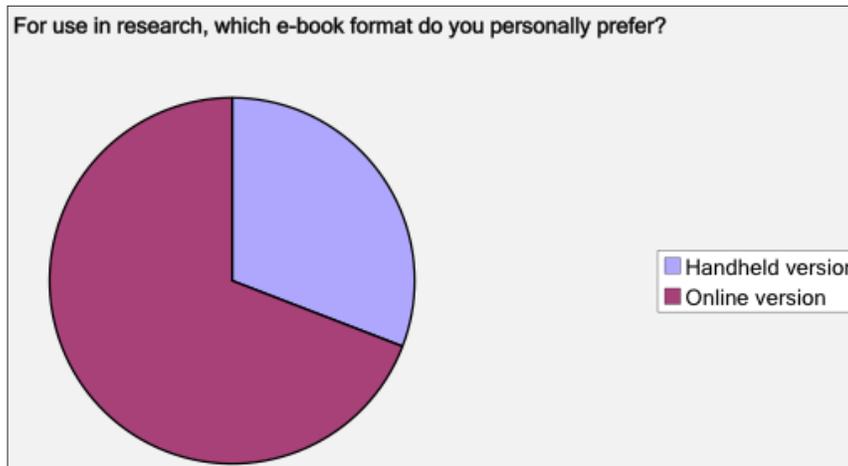
[Note: Only those survey participants who replied “Yes” to Question 16 were asked to respond to Questions 17–21.]

For general reading, which e-book format do you <i>personally</i> prefer?		
Answer Options	Response Percent	Response Count
Handheld version	76.0%	57
Online version	24.0%	18
<i>answered question</i>		75
<i>skipped question</i>		67



Question 18

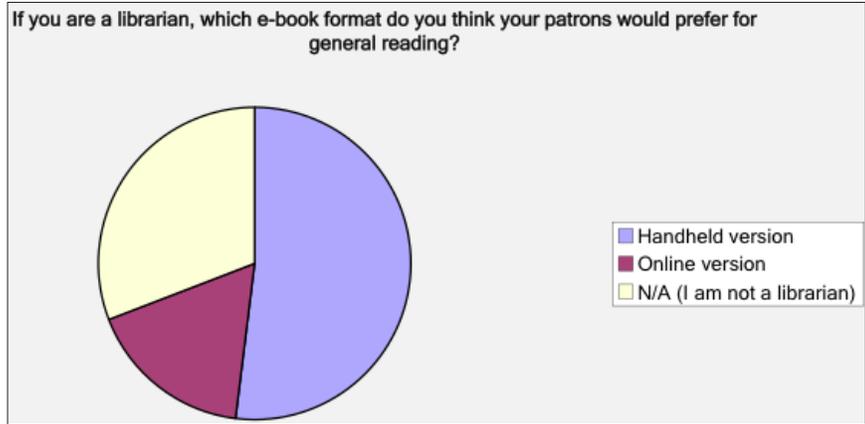
For use in research, which e-book format do you <i>personally</i> prefer?		
Answer Options	Response Percent	Response Count
Handheld version	30.7%	23
Online version	69.3%	52
<i>answered question</i>		75
<i>skipped question</i>		67



Handheld E-Book Readers and Scholarship

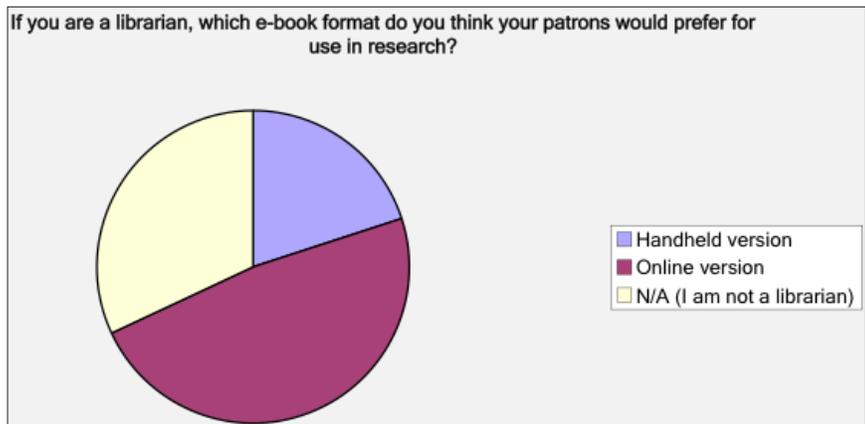
Question 19

If you are a librarian, which e-book format do you think <i>your patrons</i> would prefer for general reading?		
Answer Options	Response Percent	Response Count
Handheld version	52.0%	39
Online version	17.3%	13
N/A (I am not a librarian)	30.7%	23
answered question		75
skipped question		67



Question 20

If you are a librarian, which e-book format do you think <i>your patrons</i> would prefer for use in research?		
Answer Options	Response Percent	Response Count
Handheld version	20.0%	15
Online version	48.0%	36
N/A (I am not a librarian)	32.0%	24
answered question		75
skipped question		67



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Question 21

If you are a librarian, how likely would you be to allocate a portion of your library's budget away from online subscriptions to purchase downloadable books or handheld devices?		
Answer Options	Response Percent	Response Count
Very likely.	12.0%	9
Somewhat likely.	30.7%	23
Not likely.	8.0%	6
Undecided/not sure.	17.3%	13
N/A (I am not a librarian)	32.0%	24
answered question		75
skipped question		67

